07/08/2007,10531330c.trn

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PASSWORD:
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SESSION RESUMED IN FILE 'HCAPLUS' AT 14:30:55 ON 07 AUG 2007
FILE 'HCAPLUS' ENTERED AT 14:30:55 ON 07 AUG 2007
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	187.05	901.08

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-27.30	-55.38

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	187.05	901.08

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-27.30	-55.38

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STRUCTURE FILE UPDATES: 6 AUG 2007 HIGHEST RN 944108-38-7
DICTIONARY FILE UPDATES: 6 AUG 2007 HIGHEST RN 944108-38-7

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TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

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REGISTRY includes numerically searchable data for experimental and
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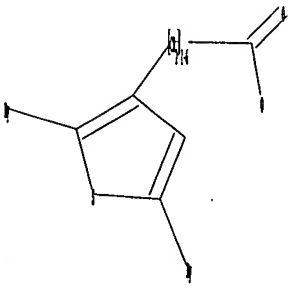
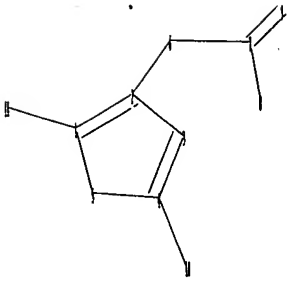
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Program Files\Stnexp\Queries\10531330c.str





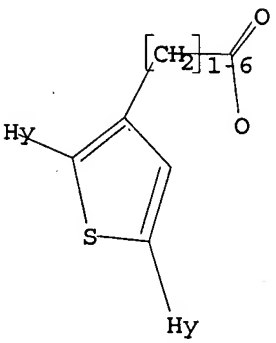
chain nodes :
6 7 8 9 10 11
ring nodes :
1 2 3 4 5
chain bonds :
1-11 2-6 4-10 6-7 7-8 7-9
ring bonds :
1-5 1-2 2-3 3-4 4-5
exact/norm bonds :
1-5 1-2 1-11 2-3 3-4 4-5 4-10 7-8 7-9
exact bonds :
2-6 6-7

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:Atom
11:Atom
Generic attributes :
10:
Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Type of Ring System : Monocyclic
11:
Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Number of Hetero Atoms : Exactly 1
Type of Ring System : Monocyclic

Element Count :
Node 11: Limited
S,S1
C,C4
O,O0
N,N0

L13 STRUCTURE UPLOADED

=> d l13
L13 HAS NO ANSWERS
L13 STR



Structure attributes must be viewed using STN Express query preparation.

```
=> s l13
SAMPLE SEARCH INITIATED 14:31:31 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     5337 TO ITERATE

 37.5% PROCESSED     2000 ITERATIONS                                 1 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       102360 TO   111120
PROJECTED ANSWERS:               1 TO      151

L14            1 SEA SSS SAM L13

=> s l13 full
FULL SEARCH INITIATED 14:31:36 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   105915 TO ITERATE

100.0% PROCESSED   105915 ITERATIONS                              71 ANSWERS
SEARCH TIME: 00.00.05

L15           71 SEA SSS FUL L13

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   172.10    1073.18

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00     -55.38

FILE 'HCAPLUS' ENTERED AT 14:31:46 ON 07 AUG 2007
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FILE COVERS 1907 - 7 Aug 2007 VOL 147 ISS 7
FILE LAST UPDATED: 6 Aug 2007 (20070806/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

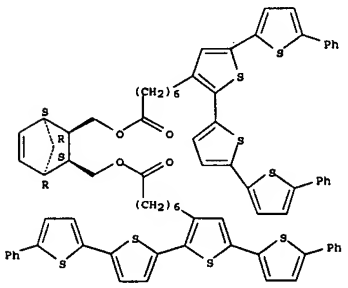
=> s l15
L16 37 L15

=> d ed abs ibib hitstr tot

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 21 Feb 2007
AB Two novel polynorbornenes functionalized with electronically active conjugated oligomer units in the side chain were synthesized by the ring-opening metathesis polymerization (ROMP) method. Both polymers showed good optical characteristics, thermal stability, film-forming properties, and interesting electrochem. properties. The photophys. and redox behaviors of the polymers are markedly different due to variation in the structure of the pendant oligomers. The polymer with Ph end-capped oligothiophene co-oligomer in the side chain showed much higher stability toward electrochem. oxidation than the one with a sexithiophene in the side chain. This was demonstrated by in-situ study of the changes in absorption spectra of the polymer films while varying the potential in electrochem. expts. During the p-doping process, the polymer with Ph end-capped oligothiophene co-oligomer in the side chain exhibited highly reversible changes in its absorption peaks when monitored at 430 and 650 nm, and the p-doping/dedoping processes can be repeated many cycles. In sharp contrast, the polymer with a sexithiophene side chain was shown to be electrochem. unstable under the same conditions. Single-layer photovoltaic cells were fabricated with the polymers as the active organic layer, and their relative performances were compared. These single-layer devices showed relatively large open-circuit voltage and moderate short-circuit current. In addition, the solar cell fabricated from the polymer with Ph end-capped oligothiophene co-oligomer showed better device stability under ambient conditions than that from the one with a sexithiophene side chain, which can be attributed to the higher stability of Ph end-capped oligothiophene co-oligomer compared to that of the sexithiophene.
ACCESSION NUMBER: 2007:189412 HCAPLUS
DOCUMENT NUMBER: 146:442446
TITLE: Synthesis, Characterization, and Properties of Homopolymers Functionalized with Oligothiophene Derivatives in the Side Chain
AUTHOR(S): Zhao, Chunchang; Zhang, Yong; Pan, Shanlin; Rothberg, Lewis; Ng, Man-Kit
CORPORATE SOURCE: Department of Chemistry and Department of Chemical Engineering, University of Rochester, Rochester, NY, 14627, USA
SOURCE: Macromolecules (Washington, DC, United States) (2007), 40(6), 1816-1823
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 934498-93-8P 934498-96-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation, characterization, and properties of homopolymers functionalized with oligothiophene derivs. in side chain)
RN 934498-93-8 HCAPLUS

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
CN [2,2':5',2'':5'',2'''-Quaterthiophene]-3'''-heptanoic acid, 5,5'''-diphenyl-, 3'',3''''''-[(1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene)] ester, rel- (CA INDEX NAME)

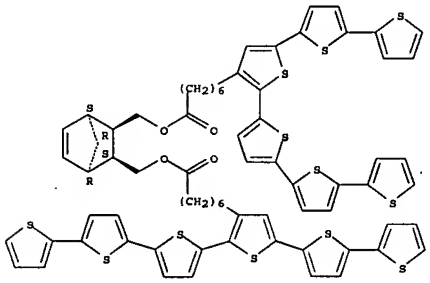
Relative stereochemistry.



RN 934498-96-1 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''-Sexithiophene]-3'''-heptanoic acid, 3''',3''''''''''-[(1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene)] ester, rel- (CA INDEX NAME)

Relative stereochemistry.

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



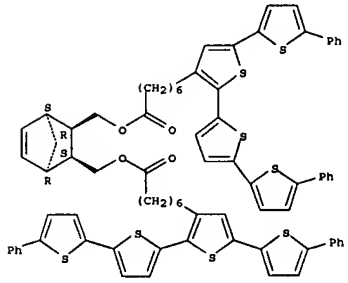
IT 934498-97-2P 934498-98-3P 934498-99-4P
934499-00-0P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation, characterization, and properties of homopolymers functionalized with oligothiophene derivs. in side chain)
RN 934498-97-2 HCAPLUS
CN [2,2':5',2'':5'',2'''-Quaterthiophene]-3'''-heptanoic acid, 5,5'''-diphenyl-, 3'',3''''''-[(1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene)] ester, rel-, homopolymer (CA INDEX NAME)

CM 1

CRN 934498-93-8
CMF C79 H70 O4 S8

Relative stereochemistry.

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 934498-98-3 HCAPLUS
CN Poly[[(4R,5S)-4,5-bis[[[7-(5,5'''-diphenyl[2,2':5',2'':5'',2'''-quaterthiophen]-3''-yl)-1-oxoheptyl]oxy]methyl]-1,3-cyclopentanediyl]-1,2-ethenediyl], rel- (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

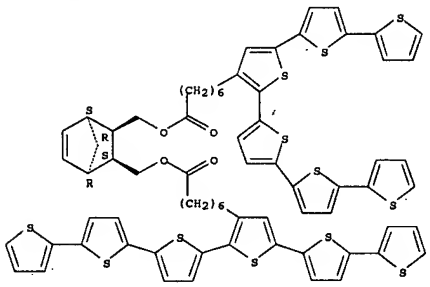
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *
RN 934498-99-4 HCAPLUS
CN Heptanoic acid, 7-[2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''-sexithiophen]-3''''-yl-, 1,1'-[(1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene)] ester, rel-, homopolymer (CA INDEX NAME)

CM 1

CRN 934498-96-1
CMF C71 H62 O4 S12

Relative stereochemistry.

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



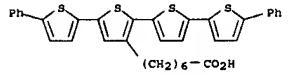
RN 934499-00-0 HCAPLUS
CN Poly[[(4R,5S)-4,5-bis[[(1-oxo-7-[2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''-sexithiophen]-3'''''-ylheptyl)oxy]methyl]-1,3-cyclopentanediyl]-1,2-ethenediyl], rel- (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

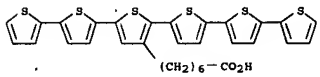
IT 934498-91-6P 934498-95-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, characterization, and properties of homopolymers functionalized with oligothiophene derivs. in side chain)

RN 934498-91-6 HCAPLUS
CN [2,2':5',2'':5'',2'''-Quaterthiophene]-3''-heptanoic acid, 5,5'''-diphenyl- (CA INDEX NAME)



RN 934498-95-0 HCAPLUS

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''-Sexithiophene]-3'''''-heptanoic acid (CA INDEX NAME)



REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

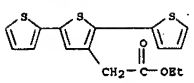
L16 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 05 Dec 2006
AB A comparative anal. of the copolymn. mechanism of an electro-active terthiophene and a carbazole moiety of a conjugated polymer precursor was carried out using electrochem. and hyphenated electrochem. methods. Five different precursor polymers were first synthesized and characterized using NMR, IR, and GPC. The polymers include homopolymers of individual electro-active groups, poly[ethyl-2-(2,5-di(thiophen-2-yl)thiophen-3-yl)ethyl methacrylate] (P3T) and poly[2-(9H-carbazol-9yl)ethyl methacrylate] (P-CBZ) and different compns. of 25%, 50%, and 75% (P3TC-25,
P3TC50, and P3TC-75) with respect to the two electro-active groups. Since
the oxidation potential of terthiophene and carbazole lie close to each other, highly cross-linked copolymer films of varying extent were produced
depending on the composition The copolymn. extent was dependent primarily on
the amount of the terthiophene, which in this case provided for a more efficient carbazole polymerization and copolymn. than with just carbazole alone
(homopolymer). The extent of copolymn., electrochromic properties, and viscoelastic changes was quant. studied using a number of hyphenated electrochem. techniques: spectro-electrochem., electrochem. quartz crystal
microbalance studies (EC-QCM), and electrochem. surface plasmon resonance spectroscopy (EC-SPR). Each technique revealed a unique aspect of the electrocopolymn. behavior that was used to define structure-property relationships and the deposition/copolymn. mechanism.

ACCESSION NUMBER: 2006:1264981 HCAPLUS
DOCUMENT NUMBER: 146:163528
TITLE: Quantitative electrochemical and electrochromic behavior of terthiophene and carbazole containing conjugated polymer network film precursors: EC-QCM and
EC-SPR
AUTHOR(S): Taranekar, Prasad; Fulghum, Timothy; Baba, Akira; Patton, Derek; Advincula, Rigoberto
CORPORATE SOURCE: Department of Chemistry and Department of Chemical Engineering, University of Houston, Houston, TX, 77204-5003, USA
SOURCE: Langmuir (2007), 23(2), 908-917
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

IT 163463-80-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(redox electrochem. and electrochromism of prepared terthiophene and carbazole containing conjugated homo- and co-polymer networks)

RN 163463-80-7 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, ethyl ester (CA INDEX NAME)

L16 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



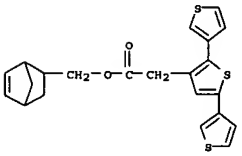
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 10 Aug 2006
AB Described are conjugated polymer fibers prepared by the method comprising electrospinning a solution of intrinsically conductive polymer, intrinsically conductive polymer precursor, or a combination thereof to form a fiber, and crosslinking the intrinsically conductive polymer, intrinsically conductive polymer precursor, or a combination thereof. The conjugated polymer fibers, which can be nanofibers, may be formed into structures in the form of a nonwoven mat or a mat comprising aligned conjugated polymer fibers, or formed into an article such as an electrochromic window or display device. A method of preparing a micropattern of conjugated polymer fiber is further disclosed.
ACCESSION NUMBER: 2006:792922 HCAPLUS
DOCUMENT NUMBER: 145:239247
TITLE: Electrically conductive conjugated polymer fiber, preparation and use thereof
INVENTOR(S): Mather, Patrick T.; Sotzing, Gregory A.
PATENT ASSIGNEE(S): University of Connecticut, USA
SOURCE: PCT Int. Appl., 73pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006084088	A1	20060810	WO 2006-US3764	20060131
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 2007089845	A1	20070426	US 2006-343552	20060131
PRIORITY APPLN. INFO.:			US 2005-648588P	P 20050131

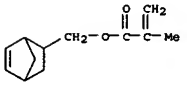
IT 905276-47-3P, Bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate-bicyclo[2.2.1]hept-5-en-2-ylmethyl (2,5-bis(thiophen-3-yl)thiophen-3-yl)acetate copolymer 905276-48-4P, Bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate-bicyclo[2.2.1]hept-5-en-2-ylmethyl (2,5-bis(thiophen-3-yl)thiophen-3-yl)acetate-bicyclo[2.2.1]hept-5-en-2-ylmethyl methacrylate copolymer
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(elec. conductive conjugated polymer electrospun nanofibers for elec.

L16 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



CM 2

CRN 36578-43-5
CMF C12 H16 O2



CM 3

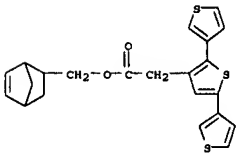
CRN 6143-29-9
CMF C9 H12 O2

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
devices)
RN 905276-47-3 HCAPLUS
CN [3,2':5',3''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 905276-46-2
CMF C22 H20 O2 S3



CM 2

CRN 6143-29-9
CMF C9 H12 O2

RN 905276-48-4 HCAPLUS
CN [3,2':5',3''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yl acetate and bicyclo[2.2.1]hept-5-en-2-ylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

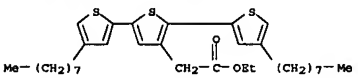
CRN 905276-46-2
CMF C22 H20 O2 S3

L16 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 01 Jun 2006
AB New processable, electroactive, alternate copolymers consisting of dialkylbithiophene units and oligoanilinethiophene units have been prepared by post-polymerization functionalization of a specially prepared precursor polymer, namely poly[(4,4''-dioctyl-2,2':5',2''-terthiophene-3'-yl)ethyl acetate], carried out via its hydrolysis and consecutive branching aniline dimer or tetramer through the amidation reaction. The precursor polymer is interesting by itself because it gives a very clear spectroelectrochem. response over a very narrow potential range. The proposed method enables the preparation of regiochem. better defined alkylthiophene-oligoanilinethiophene copolymers with higher content of oligoaniline side groups as compared to previously used methods. Cyclic voltammetry investigations combined with UV-vis-NIR, EPR and Raman spectroelectrochem. show that both the oligoaniline side groups and poly(thienylene) main chain are electrochem. active. Significant differences for the side group electrochem. are observed in acidified and nonacidified electrolytes making the prepared new copolymer a good candidate for electrochromic applications in diversified electrolytes.
ACCESSION NUMBER: 2006:511546 HCAPLUS
DOCUMENT NUMBER: 145:167684
TITLE: Alternate copolymers of head to head coupled dialkylbithiophenes and oligoaniline substituted thiophenes: preparation, electrochemical and spectroelectrochemical properties
AUTHOR(S): Buga, K.; Pokrop, R.; Majkowska, A.; Zagorska, M.; Planes, J.; Genoud, F.; Pron, A.
CORPORATE SOURCE: Faculty of Chemistry, Warsaw University of Technology, Warsaw, 00-664, Pol.
SOURCE: Journal of Materials Chemistry (2006), 16(22), 2150-2164
CODEN: JMACEP; ISSN: 0959-9428
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 901452-02-6DP, hydrolyzed, reaction products with aniline dimer and tetramer
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (copolymers of head to head coupled dialkylbithiophenes and oligoaniline substituted thiophenes)
RN 901452-02-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''-dioctyl-, ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 901452-01-5
CMF C32 H46 O2 S3

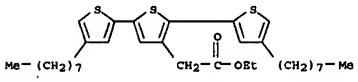
L16 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 901452-02-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(copolymers of head to head coupled dialkylbithiophenes and oligoaniline substituted thiophenes)
RN 901452-02-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4'-dioctyl-, ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 901452-01-5
CMF C32 H46 O2 S3



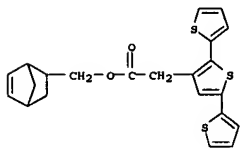
REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 17 Mar 2006
AB Ring opening metathesis polymerization of 5-norbornene-2-(methylene-3'-[2,2':5',2''] - terthiophene acetate) (NM3T) and 5-norbornene-2-acetoxymethyl (NA) resulted in random copolymers containing electroactive terthiophene pendant group. Homopolymer, PNM3T, and copolymers, P(NM3T-r-NA), with 70 and 50 mol% NM3T compns. were prepared, and their electrochem. and chemical solid-state oxidative crosslinking (SOC) were studied. PNM3T and P(NM3T-r-NA) behaved similarly during electrochem. and
chemical SOC, and the conjugated poly(terthiophene)s thus obtained showed
similar conductivity and redox properties indicating no effect of conductive
terthiophene composition on the electronic properties of random copolymers.
This method is useful for precisely controlling the optical d. of the conjugated polymer.
ACCESSION NUMBER: 2006:241612 HCAPLUS
DOCUMENT NUMBER: 146:122540
TITLE: Conducting polymers from random copolymers: solid-state crosslinking precursor approach
AUTHOR(S): Kumar, Arvind; Jang, Sung-Yeon; Marquez, Manuel; Sotzing, Gregory A.
CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269-3136, USA
SOURCE: PMSE Preprints (2006), 94, 588-589
CODEN: PPMRA9; ISSN: 1550-6703
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
IT 869677-18-9P 918476-71-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crosslinked; conducting polymers prepared by solid-state crosslinking of
terthiophene containing random copolymers)
RN 869677-18-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)

CM 1

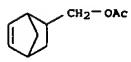
CRN 869677-17-8
CMF C22 H20 O2 S3

L16 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



CM 2

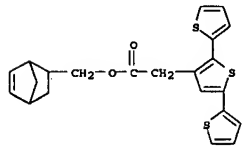
CRN 10471-24-6
CMF C10 H14 O2



RN 918476-71-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, homopolymer (CA INDEX NAME)

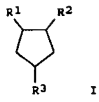
CM 1

CRN 869677-17-8
CMF C22 H20 O2 S3



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 24 Nov 2005
GI



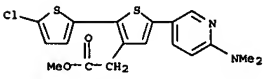
I

AB The 5-membered heterocyclic compds. I [ring A indicates Q1, Q2, or Q3; R1 = (un)substituted aryl; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl; R4 = H, (un)substituted alkyl; when R1 = R3 = Ph, then R2 ≠ carboxymethyl, ethoxycarbonylmethyl] or their pharmacol. acceptable salts are used for high-conductance Ca-sensitive K channel openers, useful for treatment of urinary frequency, urinary incontinence, cerebral infarction, subarachnoid
hemorrhage, etc. Alternatively, the 5-membered heterocyclic compds. I [ring A indicates Q4, Q5, or Q6; R1 = (un)substituted thienyl, aryl substituted with 2 halogen atoms; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl;
R4 = H, (un)substituted alkyl; when R1 = 2-thienyl, then R3 ≠ 2-thienyl] or their pharmacol. acceptable salts are used for high-conductance Ca-sensitive K channel openers. II (prepared in 5 steps from 3-bromo-2-formylfuran) inhibited K+-induced contraction of rabbit bladder samples with IC50 of ≤0.5 μM.
ACCESSION NUMBER: 2005:1240726 HCAPLUS
DOCUMENT NUMBER: 143:472612
TITLE: Use of five-membered heterocyclic compounds for high-conductance calcium-sensitive potassium channel openers
INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Oba, Kiyomi; Kono, Rikako; Konoumi, Shuntaro
PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

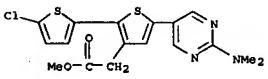
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005325103	A	20051124	JP 2005-115251	20050413
PRIORITY APPLN. INFO.:			JP 2004-117430 A	20040413

OTHER SOURCE(S): MARPAT 143:472612
IT 683251-92-5P 683251-93-6P 683251-97-0P
683251-98-1P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

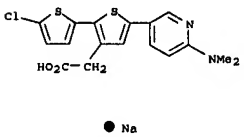
L16 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
(Uses)
(prepn. of five-membered heterocyclic compds. for high-conductance calcium-sensitive potassium channel openers)
RN 683251-92-5 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-pyridinyl]-, methyl ester (9CI) (CA INDEX NAME)



RN 683251-93-6 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-pyrimidinyl]-, methyl ester (9CI) (CA INDEX NAME)

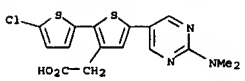


RN 683251-97-0 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)



RN 683251-98-1 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-pyrimidinyl]-, sodium salt (9CI) (CA INDEX NAME)

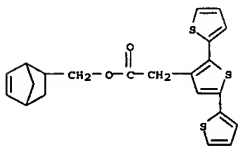
L16 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L16 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 06 Oct 2005
AB Welded conducting polymer nanofibers with rapid electrochromic switching speeds have been prepared by electrospinning a soluble precursor polymer with pendant heterocycles into nanofibers which are subsequently crosslinked via solid-state oxidative crosslinking. The switching speeds between the oxidized and neutral states for these nanofiber mats is about twenty times faster than electrochem. prepared conducting polymer films.
ACCESSION NUMBER: 2005:1069339 HCAPLUS
DOCUMENT NUMBER: 143:486350
TITLE: Welded electrochromic conductive polymer nanofibers by electrostatic spinning
AUTHOR(S): Jang, Sung-Yeon; Seshadri, Venkataramanan; Khil, Myung-Seob; Kumar, Arvind; Marquez, Manuel; Mather, Patrick T.; Sotzing, Gregory A.
CORPORATE SOURCE: Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Advanced Materials (Weinheim, Germany) (2005), 17(18), 2177-2180
CODEN: ADVMEW; ISSN: 0935-9648
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 869677-18-9 869677-18-9D, oxidized
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(welded electrochromic conductive polymer nanofibers by electrostatic spinning)
RN 869677-18-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)

CM 1

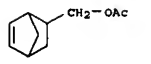
CRN 869677-17-8
CMF C22 H20 O2 S3



CM 2

CRN 10471-24-6
CMF C10 H14 O2

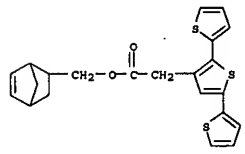
L16 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 869677-18-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)

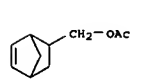
CM 1

CRN 869677-17-8
CMF C22 H20 O2 S3



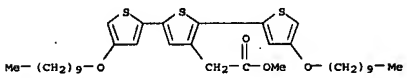
CM 2

CRN 10471-24-6
CMF C10 H14 O2



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 8 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 12 Sep 2005
AB Terthiophenes functionalized with nitro, amino, cyano, carboxyl, decylcarboxylate, acetic and acrylic acid groups were synthesized using Suzuki coupling. The electrochem. polymerization and spectroscopic data of the films deposited from substituted terthiophene modified at the 3'-position with electron-donating (NH2) and electron-withdrawing (NO2, COOC10H21) groups have been investigated. In addition, effect of alkoxy groups on the electrochem. production of substituted poly(terthiophenes) and characterization of the resulting polymer film was studied.
ACCESSION NUMBER: 2005:988348 HCAPLUS
DOCUMENT NUMBER: 143:440867
TITLE: Towards functionalized terthiophene-based polymers
AUTHOR(S): Gambhir, Sanjeev; Wagner, Klaudia; Officer, David L.
CORPORATE SOURCE: Nanomaterials Research Centre and the MacDiarmid Institute for Advanced Materials and Nanotechnology, Massey University, Palmerston North, 11-222, N. Z.
SOURCE: Synthetic Metals (2005), 154(1-3), 117-120
CODEN: SYMEDZ; ISSN: 0379-6779
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 868584-62-7P
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(preparation and electrochem. polymerization of functionalized terthiophenes)
RN 868584-62-7 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''-bis(decyloxy)-, methyl ester (9CI) (CA INDEX NAME)

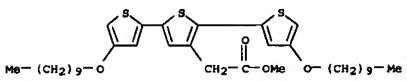


IT 868584-70-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and electrochem. polymerization of functionalized terthiophenes)
RN 868584-70-7 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''-bis(decyloxy)-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 868584-62-7
CMF C35 H52 O4 S3

L16 ANSWER 8 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



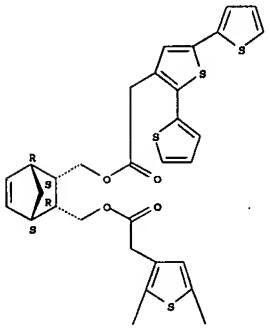
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 9 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 09 Sep 2005
AB Nano-writing of intrinsically conducting polymers, e.g., 5-norbornene-endo-2,3-bis(methylene-3'-[2,2':5',2'']-terthiophene acetate) (N3T) homopolymer, was achieved via electrochem. nanolithog. technique using tapping mode electrochem. atomic force microscopy. The electrochem. nanolithog. method is based on solid-state oxidative crosslinking of a polymer layer deposited on a substrate in the presence of an electrolyte solution Conducting polymer nanolines as small as 58 nm width were obtained and the line width was controlled as a function of the writing speed and writing potential. Higher writing potential and slower writing speed produce wider conducting polymer nanolines due to enhanced propagation. No specific restriction in the choice of substrates and the ease of controlling feature size is expected to facilitate to fabrication of all plastic nano-electronic devices.
ACCESSION NUMBER: 2005:985681 HCAPLUS
DOCUMENT NUMBER: 143:422859
TITLE: Writing of Conducting Polymers using Nanoelectrochemistry
AUTHOR(S): Jang, S.-Y.; Marquez, M.; Sotzing, G. A.
CORPORATE SOURCE: Polymer Program, Institute of Materials Science, Storrs, CT, 06269, USA
SOURCE: Synthetic Metals (2005), 152(1-3), 345-348
CODEN: SYMEDZ; ISSN: 0379-6779
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 426815-39-6
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(nanolines produced by nanoelectrochem. writing of polythiophene layer)
RN 426815-39-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

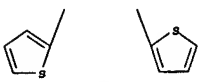
Relative stereochemistry.

L16 ANSWER 9 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



PAGE 2-A

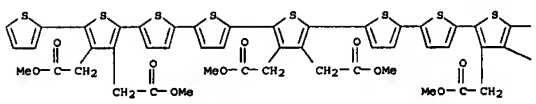


REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

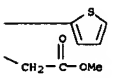
L16 ANSWER 10 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 24 Jun 2005
AB Polymer-dispersed liquid crystals (PDLCs) are liquid-crystal dispersions within a polymer matrix. These films can be changed from an opaque to a transparent state by applying a suitable alternating-current elec. field. PDLCs have attracted the interest of researchers for their applications as light shutters, smart windows, and active displays. For such applications, electrochromic devices, which change color as a result of electrochem. reactions, have also become a recent focus of research. The authors report preliminary results on bifunctional devices based on PDLCs that host electrochromic guest mols. Such devices allow both an independent and fast switching from a scattering opaque state to a transmissive transparent state owing to liquid-crystal reorientation and a color change from white (pale yellow) to dark blue, due to either oxidation or reduction of the electrochromic mols.
ACCESSION NUMBER: 2005:549213 HCAPLUS
DOCUMENT NUMBER: 144:340629
TITLE: Electrochromic polymer-dispersed liquid-crystal film: A new bifunctional device
AUTHOR(S): Nicoletta, Fiore P.; Chidichimo, Giuseppe; Cupelli, Daniela; De Filpo, Giovanni; De Benedittis, Maurizio; Gabriele, Bartolo; Salerno, Giuseppe; Fazio, Alessia
CORPORATE SOURCE: Dipartimento di Scienze Farmaceutiche Universita della Calabria, Rende, I-87036, Italy
SOURCE: Advanced Functional Materials (2005), 15(6), 995-999
CODEN: AFMDC6; ISSN: 1616-301X
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 810683-81-9P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(Sudan 1, electrochromic mixture; fabrication and characterization of bifunctional device based on polymer-dispersed liquid-crystal film doped with electrochromic mixture)
RN 810683-81-9 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''' ''':5''''''',2'''''''-Novithiophene]-3',3'''',3''''''',4',4''''',4'''''''-hexaacetic acid, hexamethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 10 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

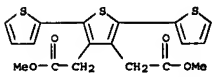
PAGE 1-A



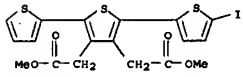
PAGE 1-B



IT 220653-51-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(monoiodination with I2)
RN 220653-51-0 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, dimethyl ester (9CI) (CA INDEX NAME)

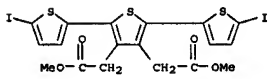


IT 880492-03-5P 880492-04-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of nonathiophene conductive polymer)
RN 880492-03-5 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, 5-iodo-, dimethyl ester (9CI) (CA INDEX NAME)



RN 880492-04-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, 5,5''-diiodo-, dimethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 10 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

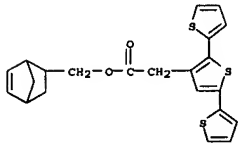


REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 11 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 08 Mar 2005
AB The authors report the preparation of polythiophene nanofibers via electrostatic spinning (e-spinning) of a solution processible precursor polymer followed by the authors novel solid-state oxidative crosslinking (SOC) process. The authors demonstrate that these fibers have electrochromic function in operable active 3"x3" devices.
ACCESSION NUMBER: 2005:201113 HCAPLUS
DOCUMENT NUMBER: 144:77796
TITLE: Electrospinning of electrochromic conductive polymeric nanofibers
AUTHOR(S): Jang, Sung-Yeon; Khil, Myung-Seob; Seshadri, Venkataramanan; Marquez, Manuel; Mather, Patrick T.; Sotzing, Gregory A.
CORPORATE SOURCE: Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2005), 46(1), 513-514
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
IT 869677-18-9D, oxidatively crosslinked
RL: DEV (Device component use); PMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(nanofibers; preparation of electrochromic conductive polythiophene nanofibers via electrospinning of solution processible precursor and oxidative crosslinking for device application)
RN 869677-18-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3''-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)

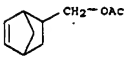
CM 1

CRN 869677-17-8
CMF C22 H20 O2 S3



CM 2

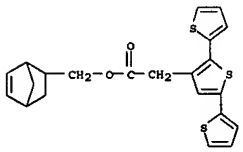
CRN 10471-24-6
CMF C10 H14 O2



IT 869677-18-9
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(precursor nanofibers; preparation of electrochromic conductive polythiophene nanofibers via electrospinning of solution processible precursor and oxidative crosslinking for device application)
RN 869677-18-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)

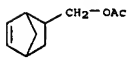
CM 1

CRN 869677-17-8
CMF C22 H20 O2 S3



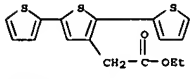
CM 2

CRN 10471-24-6
CMF C10 H14 O2



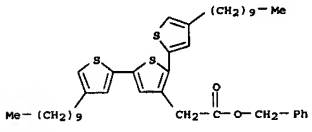
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 12 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 07 Feb 2005
AB The syntheses of 2 new terthienyl monomers containing a 1,3-propanedione group
and the derived polymers are described along with their electrochem. properties. The conjugation of the terthienyl core with the enol form of the 1,3-propanedione is examined by spectroscopic and electrochem. means. Electronic interaction between the terthiophene moiety functionalized in the 5-position and the 1,3-propanedione is demonstrated. The polymerization
conditions are studied with a view to optimizing the stability of the enol
form of the 1,3-propanedione group.
ACCESSION NUMBER: 2005:102704 HCAPLUS
DOCUMENT NUMBER: 142:324896
TITLE: A new polymer based on a conjugated terthiophene-β-diketone ligand: electrochemical study and structural aspects
AUTHOR(S): Lopes Graca, J. F.; Chane-Ching, K. I.; Yassar, A.
CORPORATE SOURCE: ITODYS, associe au CNRS (UMR 7086), Universite Paris 7-Denis Diderot, Paris, 75005, Fr.
SOURCE: Electrochimica Acta (2005), 50(7-8), 1475-1480
CODEN: ELCAAV; ISSN: 0013-4686
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 163463-80-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with ethylpentanone)
RN 163463-80-7 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, ethyl ester (CA INDEX NAME)



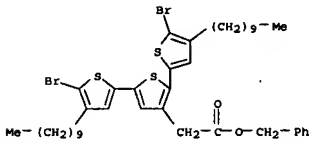
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 23 Dec 2004
AB The structural and mech. properties of Langmuir-Blodgett monolayer and multilayer films of 3'',4''''-didecyl-5,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':heptathiophene-4'''-acetic acid on mica have been studied by atomic force microscopy (AFM) as a function of humidity, temperature, and applied force. The mols. orient with the carboxylic acid group
pointing toward the mica surface and expose the alkyl side chains to the air interface. As the load applied by the AFM tip increases, the film is compressed easily from an initial height of 2 to 1.2 nm. After compression the films can support much higher loads without loss of height. The state of aggregation of the mols. was found to be sensitive to the environmental humidity, which induced reversible changes. Annealing the samples with monolayer or multilayer films resulted in irreversible changes when the temperature exceeded approx. 100 °C.
ACCESSION NUMBER: 2004:1122329 HCAPLUS
DOCUMENT NUMBER: 142:246698
TITLE: Atomic Force Microscopy Study of β-Substituted-T7 Oligothiophene Films on Mica: Mechanical Properties and Humidity-Dependent Phases
AUTHOR(S): Chen, Jinyu; Ratera, Imma; Ogletree, D. F.; Salmeron, Miquel; Murphy, Amanda R.; Frechet, Jean M. J.
CORPORATE SOURCE: Lawrence Berkeley National Laboratory, Berkeley, CA, 94720, USA
SOURCE: Langmuir (2005), 21(3), 1080-1085
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 844664-66-0P 844664-67-1P 844664-68-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; to synthesize β-substituted-T7 oligothiophene)
RN 844664-66-0 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''-didecyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

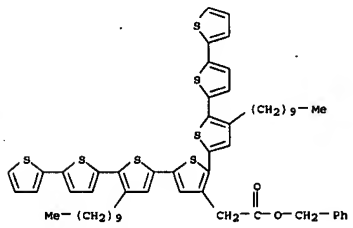


RN 844664-67-1 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 5,5''-dibromo-4,4''-didecyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

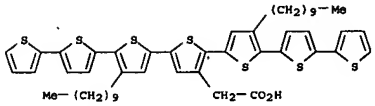


RN 844664-68-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''-Septithiophene]-3'''-acetic acid, 3'',4''''-didecyl-, phenylmethyl ester (9CI) (CA INDEX NAME)



IT 844664-69-3P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP
(Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(phase transition and mol. configuration of β-substituted-T7 oligothiophene LB film on mica)
RN 844664-69-3 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''-Septithiophene]-3'''-acetic acid, 3'',4''''-didecyl- (9CI) (CA INDEX NAME)

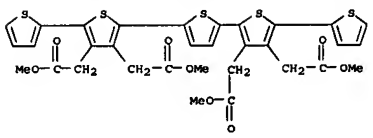
L16 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 22 Dec 2004
AB We present the optical properties and LED performance of single-layer devices of a tetra-ester of α-quinquithiophene (TET5) and of 2 related polymers (PTET5 and PDET3) and discuss them in connection with the crystal structure features of this oligomer. The solution photoluminescence quantum yield (PLQY) of TET5 is smaller than that of the corresponding unsubstituted oligomer, while its value in the solid state is appreciable. Mol. packing, consisting of a sequence of mol. stacks linked by relatively strong polar hydrogen-bond-like interactions, favors PL quenching and hence accounts for the limited quantum efficiency of LED devices built by a single-layer film displaying substantial order (next ≥ 5·10-3%). Films of the corresponding PTET5 polymer are amorphous, morphol. homogeneous, and behave differently, with LED devices showing over 500 cd/m2 at 15 V. The probable reason for the difference between TET5 and PTET5 is to be found in mol. aggregation and orientation with respect to the substrate, implying that PLQY in this class of materials is substantially influenced by self-assembly. This is confirmed by the poor efficiency of the PDET3 polymer, the films of which are substantially more ordered than those of PTET5.
ACCESSION NUMBER: 2004:1106847 HCAPLUS
DOCUMENT NUMBER: 142:241095
TITLE: Functionalized Oligothiophenes for Optoelectronic Applications: 3',4',3''',4'''-Tetra [(methoxycarbonyl)methyl]-2,2':5',2'':5'',2''':5''',2''''-quinquithiophene and Related Polymers
AUTHOR(S): Porzio, W.; Destri, S.; Giovanella, U.; Meille, S. V.; Raos, G.; Consonni, R.; Zotti, G.
CORPORATE SOURCE: Istituto per lo Studio delle Macromolecole, C.N.R., Milan, 20133, Italy
SOURCE: Chemistry of Materials (2005), 17(2), 242-249
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 220653-53-2 844642-24-6 844642-25-7 844642-26-8 844642-27-9
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(functionalized quinquithiophenes and related polymers for optoelectronic applications)
RN 220653-53-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3',3''',4',4''''-tetraacetic acid, tetramethyl ester (9CI) (CA INDEX NAME)

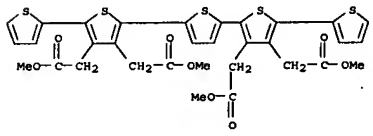
L16 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



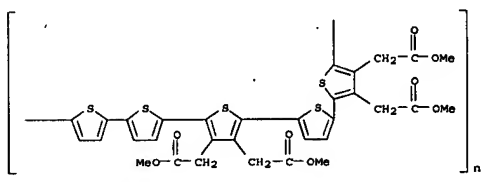
RN 844642-24-6 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3',3''',4',4''''-tetraacetic acid, tetramethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 220653-53-2
CMF C32 H28 O8 S5



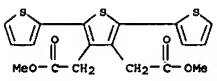
RN 844642-25-7 HCAPLUS
CN Poly[3,3''',4,4'''-tetrakis(2-methoxy-2-oxoethyl)[2,2':5',2'':5'',2''':5''',2''''-quinquethiophene]-5,5''''-diyl] (9CI) (CA INDEX NAME)



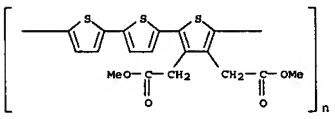
RN 844642-26-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, dimethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

L16 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
CRN 220653-51-0
CMF C18 H16 O4 S3



RN 844642-27-9 HCAPLUS
CN Poly[3,4-bis(2-methoxy-2-oxoethyl)[2,2':5',2''-terthiophene]-5,5''-diyl] (9CI) (CA INDEX NAME)



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 03 Dec 2004
AB A method of manufacturing an intrinsically conductive polymer crosslinking at least a portion of an intrinsically conductive polymer precursor in the solid state, the swollen state, or combinations comprising at least one of the foregoing states, wherein the swollen state is characterized as being one wherein the intrinsically conductive polymer precursor increases in volume upon exposure to a solvent without completely dissolving in the solvent. In another embodiment, a method of manufacturing a pattern comprises casting a film of an intrinsically conductive polymer precursor on a substrate; and crosslinking at least a portion of the film by oxidation, wherein the crosslinking occurs in the solid state, the swollen state or combinations comprising at least one of the foregoing states.
ACCESSION NUMBER: 2004:1036748 HCAPLUS
DOCUMENT NUMBER: 142:23947
TITLE: Method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom
INVENTOR(S): Sotzing, Gregory A.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 54 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004242792	A1	20041202	US 2004-788234	20040226
WO 2005014693	A1	20050217	WO 2004-US5913	20040227
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2006523262	T	20061012	JP 2006-508885	20040227
PRIORITY APPLN. INFO.:			US 2003-451165P	P 20030228
			WO 2004-US5913	W 20040227

IT 426815-40-9
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom)

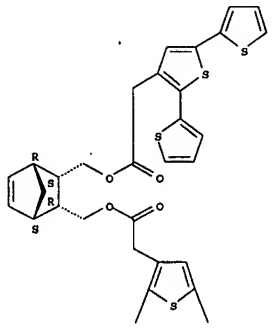
L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
RN 426815-40-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

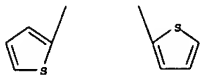
CRN 426815-39-6
CMF C37 H30 O4 S6

Relative stereochemistry.

PAGE 1-A

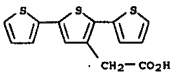


PAGE 2-A



IT 163463-81-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom)
RN 163463-81-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)

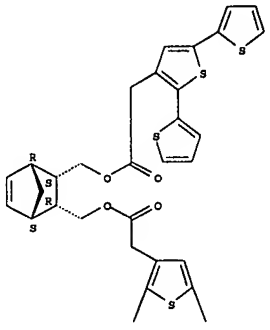
L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



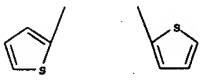
IT 426815-39-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom)
RN 426815-39-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



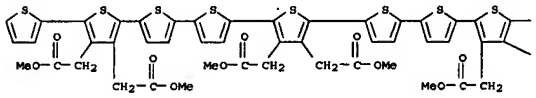
PAGE 2-A



L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

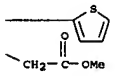
L16 ANSWER 16 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 01 Nov 2004
AB The elec. properties of polymer-dispersed liquid crystals (PDLCs) are an important characteristic in their electro-optical performance. Conductivity effects can set up depolarization fields in the films reducing the effective field across the liquid crystal droplets. Both theor. and exptl. investigations have confirmed that the elec. field across nematic droplets depends on the liquid crystal and PMMA conductivities. In this letter, we have found that the doping of a PDLC with low percentages of a conductive polymer allows a fine adjustment of polymer matrix conductivity In addition, we have found a large reduction in the re-orientation fields and relaxation times as a function of conductive polymer loading. Results are in rather good agreement with a simple phenomenol. model.
ACCESSION NUMBER: 2004:907957 HCAPLUS
DOCUMENT NUMBER: 142:57126
TITLE: Fine adjustment of conductivity in polymer-dispersed liquid crystals
AUTHOR(S): Cupelli, D.; Nicoletta, F. P.; de Filpo, G.; Chidichimo, G.; Fazio, A.; Gabriele, B.; Salerno, G.
CORPORATE SOURCE: Dipartimento di Chimica, Universita degli Studi della Calabria, Rende, 87036, Italy
SOURCE: Applied Physics Letters (2004), 85(15), 3292-3294
CODEN: APPLAB; ISSN: 0003-6951
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 810683-81-9
RL: MOA (Modifier or additive use); USES (Uses)
(fine adjustment of conductivity in PMMA-dispersed liquid crystals)
RN 810683-81-9 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''':5''''''',2'''''''-Novithiophene]-3',3'''',3''''''',4',4''''',4'''''''-hexaacetic acid, hexamethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



L16 ANSWER 16 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

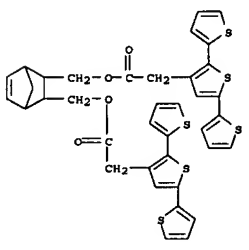


REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 17 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 21 Jul 2004
AB Conductive polymer nanolines having widths ≥45 nm were obtained on glass using a novel scanning probe lithog. (SPL) technique at writing speeds of >5 μm/s. Herein the authors' nanowriting is >1500 times faster than current SPL nanoscale writing of conductive polymers. The lack of a specific restriction on the choice of substrates and the ability to write within a polymer matrix to provide a continuous film that is either 2-dimensional or 2.5-D provide tremendous potential for the authors' SPL technique in nanotechnol. and plastic electronics applications.
ACCESSION NUMBER: 2004:580240 HCAPLUS
DOCUMENT NUMBER: 141:269584
TITLE: Rapid Direct Nanowriting of Conductive Polymer via Electrochemical Oxidative Nanolithography
AUTHOR(S): Jang, Sung-Yeon; Marquez, Manuel; Sotzing, Gregory A.
CORPORATE SOURCE: Polymer Program, Institute of Materials Science and Department of Chemistry, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Journal of the American Chemical Society (2004), 126(31), 9476-9477
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 755041-13-5P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(scanning probe lithog. of conductive polymer by oxidative polymerization)
RN 755041-13-5 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 631914-07-3
CMF C37 H30 O4 S6



L16 ANSWER 17 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 14 May 2004
AB A comparative study of solid-state oxidative crosslinking (SOC) of polynorbornylenes containing thiophene (N1T), bithiophene (N2T), and terthiophene pendants (N3T) probing polymerization ability, kinetics, and the electrochem. and optical properties of the resulting conductive polythiophene interpenetrating networks (IPN)s is reported. Generally, conductive IPNs prepared from these systems were found to exhibit the capability to shuttle ions with predominant anion transport during the doping/dedoping process and were found to have doping levels ranging from 17 to 36%. N2T was found to produce conductive IPNs via SOC with a lower energy π to π* transition compared to those prepared from N3T.
ACCESSION NUMBER: 2004:390389 HCAPLUS
DOCUMENT NUMBER: 141:107064
TITLE: Poly(thiophene)s Prepared via Electrochemical Solid-State Oxidative Cross-Linking. A Comparative Study
AUTHOR(S): Jang, Sung-Yeon; Sotzing, Gregory A.; Marquez, Manuel
CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Macromolecules (2004), 37(12), 4351-4359
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 426815-40-9DP, crosslinked
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(electrochem. crosslinking of polynorbornylenes containing thiophene, bithiophene, and terthiophene pendants)
RN 426815-40-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 426815-39-6
CMF C37 H30 O4 S6

Relative stereochemistry.

L16 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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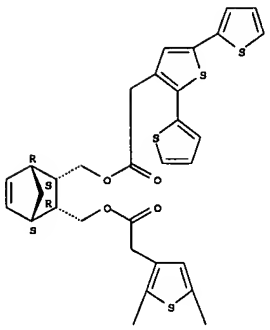

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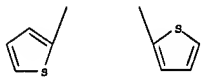


IT 426815-40-9 426815-41-0
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(prepolymer; electrochem. crosslinking of polynorbornylenes containing thiophene, bithiophene, and terthiophene pendants)
RN 426815-40-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

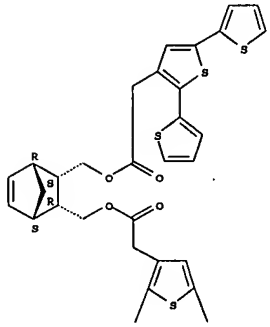
CM 1

CRN 426815-39-6
CMF C37 H30 O4 S6

Relative stereochemistry.

L16 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



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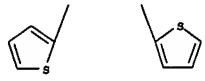
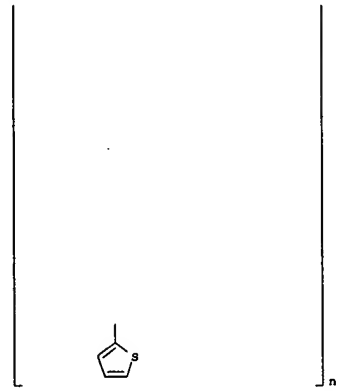


RN 426815-41-0 HCAPLUS
CN Poly[[(4R,5S)-4,5-bis[[([2,2':5',2''-terthiophen]-3'-ylacetyl)oxy]methyl]-1,3-cyclopentanediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L16 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



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REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 30 Apr 2004
AB There are disclosed large conductance Ca-activated K channel openers (R1-R3-substituted 5-membered heterocycles (I; e.g. 5-(4-methylthiophenyl)-2-(5-chlorothien-2-yl)furan-3-ylacetic acid sodium salt (II)) containing any one of O, N or S, which ring may be N-substituted by R4; R1 is aryl, heterocyclic or heterocycle-substituted carbonyl; R2 is H, halogen, carboxy, amino, alkyl, alkoxycarbonyl, alkenyl or cycloalkyl; R3 is aryl, heterocyclic or alkyl; and R4 is H or alkyl; each of substituents may be substituted; addnl. details are given in the claims) or a pharmaceutically acceptable salt thereof as an active ingredient. Although the methods of preparation are not claimed, example prepns. and/or characterization data for .apprx.60 examples of I are included. For example, II was prepared in 6 steps (28, 58, not given, 58, 71, not given % yields, resp.) starting with coupling of 3-formylfuran-2-ylboronic acid with 2-bromo-5-chlorothiophene to give 2-(5-chlorothien-2-yl)furan-3-carboxaldehyde, which was converted to Et 2-(5-chlorothien-2-yl)furan-3-ylacetate, then Et 2-[5-bromo-2-(5-chlorothien-2-yl)furan-3-yl]acetate, then Et 2-[5-(4-methylthiophenyl)-2-(5-chlorothien-2-yl)furan-3-yl]acetate using (4-methylthiophenyl)boronic acid, followed by base hydrolysis to the acid followed by conversion to the sodium salt. The relaxation effect on K-induced contraction of isolated rabbit urinary bladder and the inhibitory effect on the rhythmic bladder contractions induced by substance P in anesthetized rats were determined for 8 and 6 examples of I, resp. Expts. involving iberiotoxin, a selective large conductance calcium activated K channel blocker, suggest that I have a detrusor relaxing activity through the large conductance calcium activated K channel.
ACCESSION NUMBER: 2004:354933 HCAPLUS
DOCUMENT NUMBER: 140:375064
TITLE: Preparation of 5-membered heterocycle-substituted acetic acid derivatives as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence
INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Ohba, Kiyomi; Kono, Rikako; Kohnomi, Shuntarou
PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan
SOURCE: PCT Int. Appl., 90 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035570	A1	20040429	WO 2003-JP13194	20031015

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,

L16 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2501979	A1	20040429	CA 2003-2501979	20031015
AU 2003272099	A1	20040504	AU 2003-272099	20031015
EP 1556376	A1	20050727	EP 2003-754140	20031015

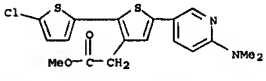
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

BR 2003015386	A	20050823	BR 2003-15386	20031015
CN 1705659	A	20051207	CN 2003-80101508	20031015
JP 2006503111	T	20060126	JP 2005-501348	20031015
NZ 539902	A	20070531	NZ 2003-539902	20031015
MX 2005PA03972	A	20050622	MX 2005-PA3972	20050414
US 2006135597	A1	20060622	US 2005-531330	20050414
NO 2005002023	A	20050510	NO 2005-2023	20050426

PRIORITY APPLN. INFO.:

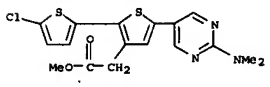
JP 2002-300860	A	20021015
JP 2003-104260	A	20030408
WO 2003-JP13194	W	20031015

OTHER SOURCE(S): MARPAT 140:375064
IT 683251-92-5P, Methyl 5-[6-(dimethylamino)pyridin-3-yl]-2-(5-chlorothien-2-yl)thiophen-3-acetate 683251-93-6P, Methyl 5-[2-(dimethylamino)pyrimidin-5-yl]-2-(5-chlorothien-2-yl)thiophen-3-acetate
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)
RN 683251-92-5 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-pyridinyl]-, methyl ester (9CI) (CA INDEX NAME)

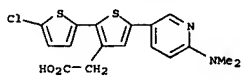


RN 683251-93-6 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-pyrimidinyl]-, methyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

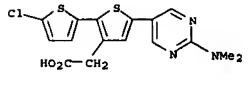


IT 683251-97-0P, 5-[6-(Dimethylamino)pyridin-3-yl]-2-(5-chlorothien-2-yl)thiophen-3-acetic acid sodium salt 683251-98-1P, 5-[2-(Dimethylamino)pyrimidin-5-yl]-2-(5-chlorothien-2-yl)thiophen-3-acetic acid sodium salt
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)
RN 683251-97-0 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)



● Na

RN 683251-98-1 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-pyrimidinyl]-, sodium salt (9CI) (CA INDEX NAME)



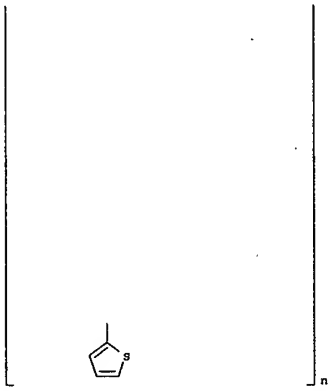
● Na

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 22 Mar 2004
AB We previously demonstrated a novel intrinsically conducting polymers (ICP) preparation method, solid-state oxidative crosslinking (SOC), which can be used to make ICPs from an insulating precursor polymer. The scheme for the preparation of poly(5-norbornene-endo-2,3-bis-methylene-3'-[2,2':5',2'']terthiophene acetate), PN3T, which is an insulating precursor polymer and its conversion to an ICP, PNP3T via SOC is described. Conversion of the insulating precursor polymer, PN3T, to the conducting polymer, PNP3T, can be achieved via oxidation of pendant terthiophene units, either electrochem. (E-SOC) or chemical (C-SOC). The precursor polymer is processable to desired forms since it is soluble in many of the common organic solvents, and SOC is performed in solvents that only swell but do not dissolve the precursor polymer. Nano-writing of an intrinsically conducting polymer was achieved via a novel method that we have coined electrochem. oxidative nanolithog. (ECON). By using a conductive AFM tip as a working electrode, the solid-state oxidative crosslinking (SOC) of PN3T occurs in the nanometer scale regime. The size of ICP lines obtained were as small as 200 nm-wide, and the width of nano-lines could be controlled by writing speed. The writing speed of ECON is presently from 50 to 10,000 faster than other SPM-based conducting polymer nanolithog. techniques and there is no specific restriction of substrate.
ACCESSION NUMBER: 2004:234237 HCAPLUS
DOCUMENT NUMBER: 141:164737
TITLE: Direct writing of polyterthiophene nanowires using electrochemical oxidative nanolithography (ECON)
AUTHOR(S): Jang, Sung-Yeon; Marquez, Manuel; Sotzing, Gregory A.
CORPORATE SOURCE: Chemistry Department and Polymer Program, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2004), 45(1), 225-226
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
IT 426815-40-9 426815-41-0
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(nano-writing of intrinsically conducting polymer via electrochem. oxidative nanolithog. using solid state oxidative crosslinking)
RN 426815-40-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

L16 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



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REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

CRN 426815-39-6
CMF C37 H30 O4 S6

Relative stereochemistry.

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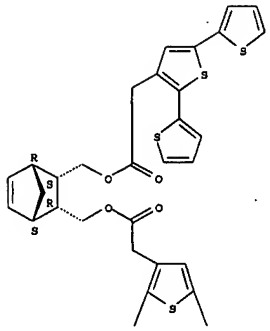

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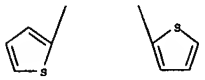
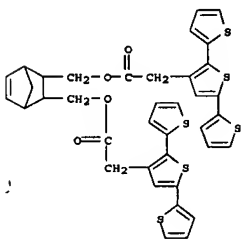


RN 426815-41-0 HCAPLUS
CN Poly[[(4R,5S)-4,5-bis[[([2,2':5',2''-terthiophen]-3'-ylacetyl)oxy]methyl]-1,3-cyclopentanediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

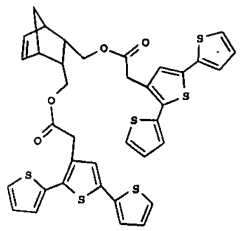
L16 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 24 Aug 2003
AB Ion transport behavior of solid-state crosslinking of the precursor polymer, poly(1a), was studied using electrochem. quartz crystal microbalance (EQCM). We also compared the results of ion transport behavior in solid-state crosslinking to that of conventional electrochem. deposition from the monomer solution The EQCM results of the solid-state crosslinkable precursor polymer, poly(1a) was different from that of electrodeposition from the monomer solution since no deposition occurs during solid-state crosslinking. Both conducting polymers show similar doping level (.apprx.35%), and poly(1b) prepared by solid-state crosslinking shows less anion dominant ion transport ratio (89%) than that of poly(1) (97%) prepared from monomer solution
ACCESSION NUMBER: 2003:658007 HCAPLUS
DOCUMENT NUMBER: 140:17158
TITLE: Ion transport studies on intrinsically conducting polymer prepared by solid-state crosslinking
AUTHOR(S): Jang, Sung-Yeon; Sotzing, Gregory A.; Marquez, Manuel
CORPORATE SOURCE: Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(2), 360-361
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
IT 631914-07-3P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(ion transport on intrinsically conducting polymer prepared by solid-state crosslinking)
RN 631914-07-3 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 22 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 18 Mar 2003
GI



I

AB Insulating polymer backbones consisting of pendant oxidatively polymerizable units such as pyrrole, thiophene, etc., can be oxidatively crosslinked in a solid state. Swellability of the precursor polymers is a key factor in deciding the success of this method. Terthiophene derivative I was metathesis polymerized, coated on an electrode patterned surface, and oxidatively crosslinked electrochem.

ACCESSION NUMBER: 2003:210744 HCAPLUS
DOCUMENT NUMBER: 138:402620
TITLE: Oxidative solid-state crosslinking for patterning intrinsically conductive polymers
AUTHOR(S): Sotzing, Gregory A.; Jang, Sung-Yeon; Marquez, Manuel
CORPORATE SOURCE: Department of Chemistry and the Polymer Program Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(1), 82-83
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English

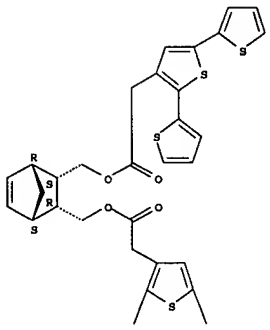
IT 426815-39-6
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(oxidative crosslinking of; oxidative solid-state crosslinking for patterning intrinsically conductive polymers)

RN 426815-39-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA

L16 ANSWER 22 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
INDEX NAME)

Relative stereochemistry.

PAGE 1-A



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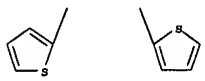


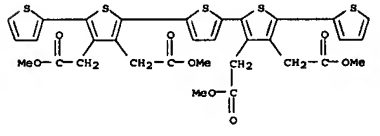
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 08 Jan 2003
AB The aim of this contribution is to report on the recent study of differently packed oligomers based on mixed fluorene, thiophene derivs. and on substituted thiophene oligomers, with particular reference on the influence of the overall solid-state aggregation onto the photoluminescence (PL). However, the preparation of polymers having the cited oligomers as monomeric unit, thus changing the aggregation, can enhance the emission property. The combined use of crystal structure anal., powder diffraction anal. and mol. mechanics/crystal packing calcns. allowed the authors to give a deeper insight between PL emission and solid-state aggregation, in its turn related to chemical structure. Other factors affecting the PL yield have to be taken into account to understand the behavior of mols. containing both polar and mobile substituents. Also, some indications confirming the conclusions reached on the previous topics will be presented from LED device measurements.

ACCESSION NUMBER: 2003:13551 HCAPLUS
DOCUMENT NUMBER: 138:345688
TITLE: The role of solid-state aggregation on the emission in molecular crystals and in their devices
AUTHOR(S): Destri, S.; Pasini, M.; Giovanella, U.; Porzio, W.
CORPORATE SOURCE: Istituto per lo studio delle Macromolecole del C.N.R., Milan, 20133, Italy
SOURCE: Materials Science & Engineering, C: Biomimetic and Supramolecular Systems (2003), C23(1-2), 291-295
CODEN: MSCEEE; ISSN: 0928-4931
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

IT 220653-53-2
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(role of solid-state aggregation on emission in mol. crystals and in their devices)

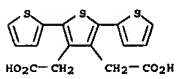
RN 220653-53-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3',3''',4',4''''-tetraacetic acid, tetramethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 20 Dec 2002
AB The authors prepare and characterize new IR luminescent materials based on
Er3+ which can be excited in the visible region thanks to oligothiophene ligands featuring the carboxylate functionality. Absorption spectra, IR photoluminescence spectra are presented.
ACCESSION NUMBER: 2002:961968 HCAPLUS
DOCUMENT NUMBER: 138:114714
TITLE: Novel Erbium-Substituted Oligothiophene Chelates for Infrared Emission
AUTHOR(S): Destri, Silvia; Porzio, William; Meinardi, Francesco; Tubino, Riccardo; Salerno, Giuseppe
CORPORATE SOURCE: Istituto per lo Studio delle Macromolecole, CNR, Milan, I-20133, Italy
SOURCE: Macromolecules (2003), 36(2), 273-275
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 488701-86-6 488701-87-7
RL: PRP (Properties)
(novel erbium-substituted oligothiophene chelates for IR emission)
RN 488701-86-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, erbium(3+) sodium salt (2:1:1) (9CI) (CA INDEX NAME)

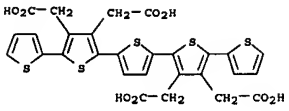


●1/2 Er(III)

●1/2 Na

RN 488701-87-7 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3',3''',4',4'''-tetraacetic acid, erbium(3+) sodium salt (2:1:5) (9CI) (CA INDEX NAME)

L16 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

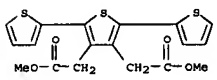


●1/2 Er(III)

●5/2 Na

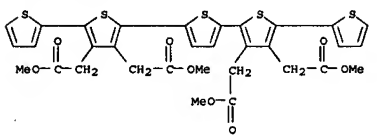
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 25 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 05 Nov 2002
AB The regioregular polyalkylthiophene reported in this contribution was electrochem. synthesized starting from a 3,4-bis(methoxyacetyl)terthiophen
e and carefully characterized. Luminescence anal. gave, both in solution and
in films, very appreciable quantum yield values and LED devices realized with Ca cathode provided a value of red electroluminescence comparable with those of regioregular poly(3-alkylthiophene)s in the monolayer active
material architecture, while if a blend with poly-N-vinylcarbazole and 2-(4-t-butyl-phenyl)-5-(4-biphenyl)-1,3,4-oxadiazole constitutes the active layer a white emission is observed
ACCESSION NUMBER: 2002:838317 HCAPLUS
DOCUMENT NUMBER: 138:262345
TITLE: A new soluble poly(bithiophene)-co-3,4-di(methoxycarbonyl)methyl thiophene for LED
AUTHOR(S): Destri, Silvia; Giovanella, Umberto; Fazio, Alessia; Porzio, William; Gabriele, Bartolo; Zotti, Gianni
CORPORATE SOURCE: Istituto per lo Studio delle Macromolecole, CNR, Milan, 20133, Italy
SOURCE: Organic Electronics (2002), 3(3-4), 149-156
CODEN: OERLAU; ISSN: 1566-1199
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 220653-51-0P, 3',4'-Bis(methoxyacetyl)-2,2':5',2''terthiophene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(bromination and Stille coupling with (tributylstannyl)thiophene)
RN 220653-51-0 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, dimethyl ester (9CI) (CA INDEX NAME)



IT 220653-53-2P, 3',4',3''',4'''-Tetrakis(methoxyacetyl)-2,2':5',2'':5'',2''':5''',2''''-quinquithiophene
RL: SPN (Synthetic preparation); PREP (Preparation)
(bromination and Stille coupling with (tributylstannyl)thiophene)
RN 220653-53-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3',3''',4',4'''-tetraacetic acid, tetramethyl ester (9CI) (CA INDEX NAME)

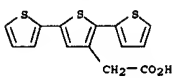
L16 ANSWER 25 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 09 Aug 2002
AB Herein we describe the preparation of intrinsically conducting poly(thiophene)
via two different routes: solution- and solid-state crosslinking of terthiophene moieties. The solution-state crosslinking of terthiophene moieties was performed using conventional electrochem. polymerization in which
insol. cross-linked polymer was precipitated onto the electrode from electrolyte
solution of the monomer by oxidative coupling of terthiophene units in the
monomer,
5-norbornene-endo-2,3-bis(methylene-3'-[2,2':5',2'']-terthiophene
acetate). In the alternative route, a precursor polymer,
poly(norbornylene), prepared from the ring-opening metathesis polymerization (ROMP)
of 5-norbornene-endo-2,3-bis(methylene-3'-[2,2':5',2'']-terthiophene
acetate), was coated on either a conducting or insulating surface, and
then the terthiophene units were cross-linked to form intrinsically
conductive polymer (ICP) via electrochem. and chemical oxidation, resp. More
highly conjugated ICP was observed by performing oxidative crosslinking of
the polymer in the solid state, in contrast to the cross-linked
intrinsically conducting polymer prepared via electrochem. polymerization of
5-norbornene-endo-2,3-bis(methylene-3'-[2,2':5',2'']-terthiophene acetate)
from solution Elec. conductivities for the polymers obtained via solid-state
chemical oxidative crosslinking were on the order of 1 + 10-3 S/cm.
ACCESSION NUMBER: 2002:590573 HCAPLUS
DOCUMENT NUMBER: 137:233030
TITLE: Intrinsically Conducting Polymer Networks of Poly(thiophene) via Solid-State Oxidative Cross-Linking of a Poly(norbornylene) Containing Terthiophene Moieties
AUTHOR(S): Jang, Sung-Yeon; Sotzing, Gregory A.; Marquez, Manuel
CORPORATE SOURCE: Department of Chemistry, Polymer Program Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Macromolecules (2002), 35(19), 7293-7300
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 163463-81-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(chlorination and reaction with norbornenedimethanol)
RN 163463-81-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)

L16 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



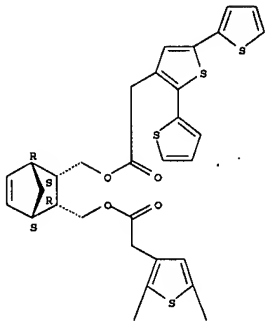
IT 426815-40-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)
RN 426815-40-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 426815-39-6
CMF C37 H30 O4 S6

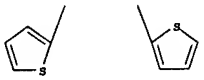
Relative stereochemistry.

PAGE 1-A



L16 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

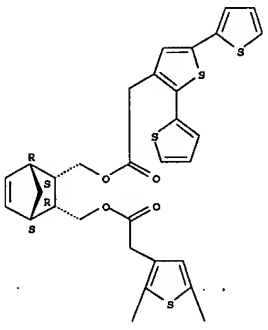
PAGE 2-A



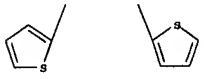
IT 426815-39-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)
RN 426815-39-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



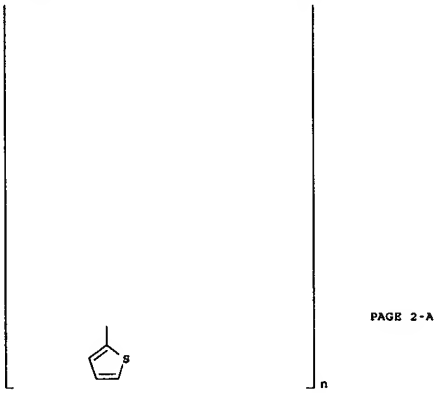
PAGE 2-A



IT 426815-41-0P

L16 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(prepn. by ring-opening metathesis polymn. and electrochem. crosslinking of)
RN 426815-41-0 HCAPLUS
CN
Poly[[(4R,5S)-4,5-bis[[([2,2':5',2''-terthiophen]-3'-ylacetyl)oxy]methyl]-1,3-cyclopentanediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *



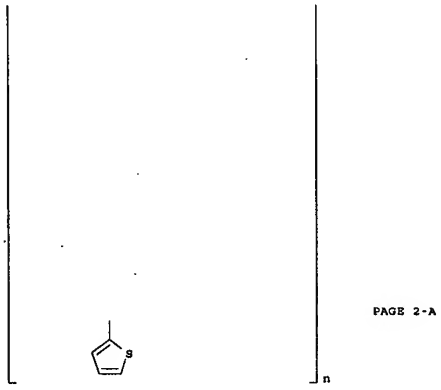
PAGE 2-A

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 29 Jul 2002
AB We have utilized a poly(norbornylene) functionalized with pendent terthiophene moieties to achieve ICP crosslink units via solid-state electrochem. coupling. With this system, we are able to process thin films of polynorbornylenes on numerous conducting and insulating substrates since this precursor to an ICP readily dissolves in common solvents such as methylene chloride, chloroform, toluene, etc. The precursor polymer does not dissolve, but only swells, in acetonitrile, and therefore solid-state preparation of ICP via oxidative coupling of pendant terthiophene units using either electrochem. oxidation and/or chemical oxidants is accomplished. Utilizing both the solution-processibility of the precursor poly(norbornylene) and solid-state ICP crosslinking, facile patterning of ICP on numerous substrates was achieved. For example, an inter-digitated pattern of 10 μ dimensions was burnt into the poly(norbornylene) precursor film.
ACCESSION NUMBER: 2002:559991 HCAPLUS
DOCUMENT NUMBER: 137:233028
TITLE: Oxidative solid-state crosslinking of polymer precursors to pattern intrinsically conducting polymers
AUTHOR(S): Sotzing, Gregory A.; Jang, Sung-Yeon; Marquez, Manuel
CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: PMSE Preprints (2002), 87, 371-372
CODEN: PPMRA9; ISSN: 1550-6703
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
IT 426815-41-0P
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(preparation by ring-opening metathesis polymerization and electrochem. crosslinking of)
RN 426815-41-0 HCAPLUS
CN
Poly[[(4R,5S)-4,5-bis[[([2,2':5',2''-terthiophen]-3'-ylacetyl)oxy]methyl]-1,3-cyclopentanediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L16 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



PAGE 2-A

IT 426815-40-9P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation by ring-opening metathesis polymerization of bis(terthienyl)norbornylene monomer followed by electrochem. crosslinking)
RN 426815-40-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

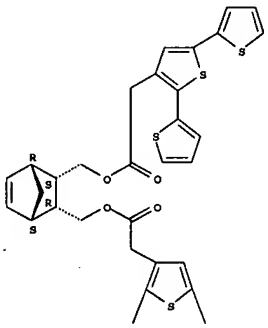
CM 1

CRN 426815-39-6
CMF C37 H30 O4 S6

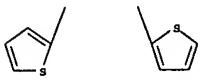
Relative stereochemistry.

L16 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

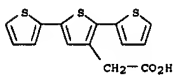


PAGE 2-A



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 27 Mar 2002
AB A monomer containing norbornene with 2 terthiophene units was prepared by treating 2,5-bis(2-thienyl)-3-thiophene acetic acid with oxalyl chloride followed by treatment with 5-norbornene-2-endo,3-endo-dimethanol. Ring-opening metathesis polymerization and electrochem. crosslinking of the polymer were carried out. The first oxidative process for the terthiophene occurred at the same potential as that for the polymerization of monomer from solution, whereas, the second oxidative process occurred at .apprx.0.1 V higher.
ACCESSION NUMBER: 2002:232233 HCAPLUS
DOCUMENT NUMBER: 136:386520
TITLE: Poly(terthiophene) networks via electrochemical crosslinking of terthiophene derivatized norbornylene monomers and polymers
AUTHOR(S): Jang, Sung-Yeon; Clark, Maxwell, Sotzing, Gregory A.
CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: PMSE Preprints (2002), 86, 205-206
CODEN: PPMRA9; ISSN: 1550-6703
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
IT 163463-81-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(chlorination and reaction with norbornenedimethanol)
RN 163463-81-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)



IT 426815-40-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)
RN 426815-40-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

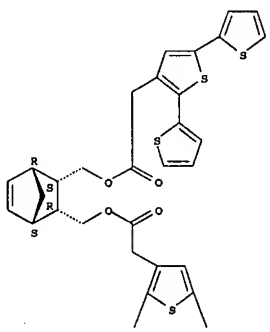
CM 1

CRN 426815-39-6
CMF C37 H30 O4 S6

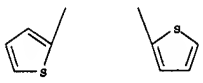
Relative stereochemistry.

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



PAGE 2-A

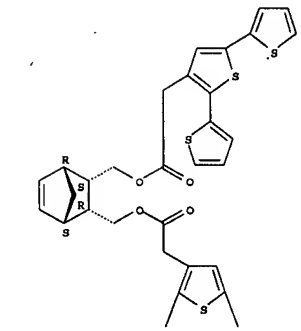


IT 426815-41-0P
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(preparation by ring-opening metathesis polymerization and electrochem. crosslinking of)
RN 426815-41-0 HCAPLUS
CN Poly[[(4R,5S)-4,5-bis[[([2,2':5',2''-terthiophen]-3'-ylacetyl)oxy]methyl]-1,3-cyclopentanediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



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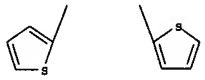
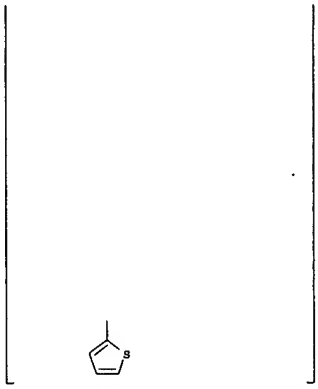


IT 426815-39-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)
RN 426815-39-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A

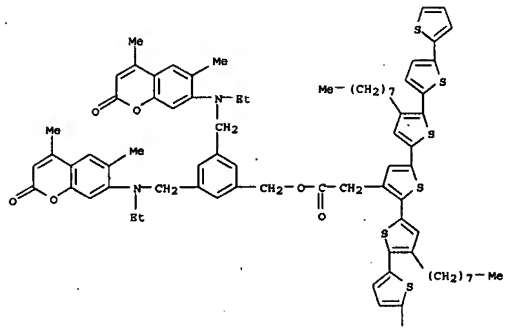


REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 30 Jan 2001
AB Dendrimers possessing coumarin 2 dyes at the periphery, and either a coumarin 343 or a heptathiophene dye at the core, have been studied by femtosecond transient absorption spectroscopy in order to elucidate energy-transfer rate consts. These measurements indicated that energy transfer occurs with average correlation times of less than 6 ps in the first three generations, and slows to a correlation time of approx. 18 ps in the fourth. The transient spectral features arising from excitation of the peripheral donor chromophores at 330 nm are described. Addnl., these measurements provide a quant. comparison between observed and theor. energy-transfer rate consts., indicating a close correlation of the exptl. results with Foerster theory.
ACCESSION NUMBER: 2001:67060 HCAPLUS
DOCUMENT NUMBER: 134:282119
TITLE: Femtosecond transient absorption studies of energy transfer within chromophore-labeled dendrimers
AUTHOR(S): Neuwahl, Frederik V. R.; Righini, Roberto; Adronov, Alex; Malenfant, Patrick R. L.; Frechet, Jean M. J.
CORPORATE SOURCE: Department of Chemistry and LENS, University of Florence, Florence, 50125, Italy
SOURCE: Journal of Physical Chemistry B (2001), 105(7), 1307-1312
CODEN: JPCBFK; ISSN: 1089-5647
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 272115-66-9 272115-68-1 272115-69-2
RL: PRP (Properties)
(femtosecond transient absorption studies of energy transfer within chromophore-labeled dendrimers)
RN 272115-66-9 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''']-Septithiophene]-3'''-acetic acid, 3'',4''''-dioctyl-, [3,5-bis[[(4,6-dimethyl-2-oxo-2H-1-benzopyran-7-yl)ethylamino]methyl]phenyl]methyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

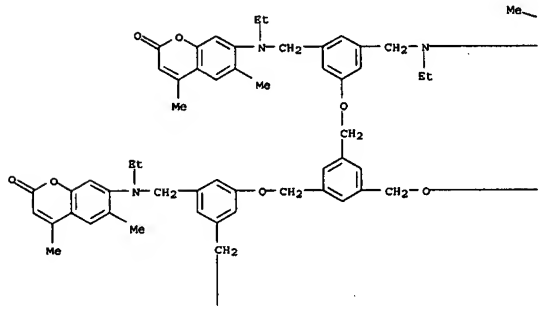


PAGE 2-A

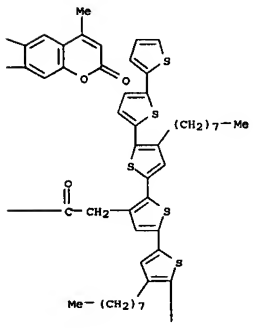
RN 272115-68-1 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''']-Septithiophene]-3'''-acetic acid, 3'',4''''-dioctyl-, [3,5-bis[[3,5-bis[[(4,6-dimethyl-2-oxo-2H-1-benzopyran-7-yl)ethylamino]methyl]phenoxy]methyl]phenyl]methyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

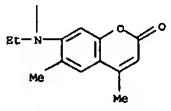


PAGE 1-B



L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A



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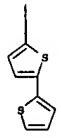
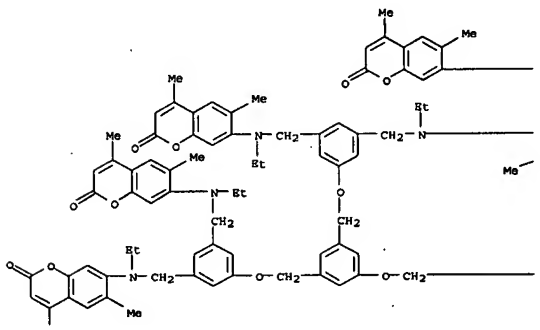


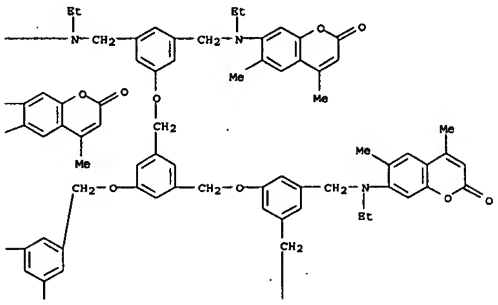
RN 272115-69-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''']-Septithiophene]-3'''-acetic acid, 3'',4''''-dioctyl-, [3,5-bis[[3,5-bis[[3,5-bis[[(4,6-dimethyl-2-oxo-2H-1-benzopyran-7-yl)ethylamino]methyl]phenoxy]methyl]phenoxy]methyl]phenyl]methyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



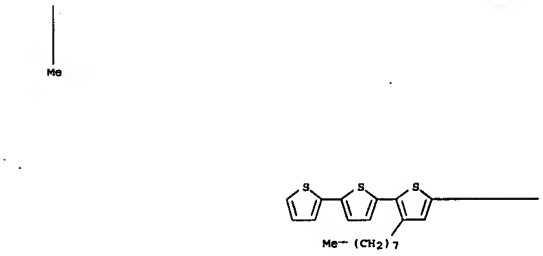
L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B



L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A



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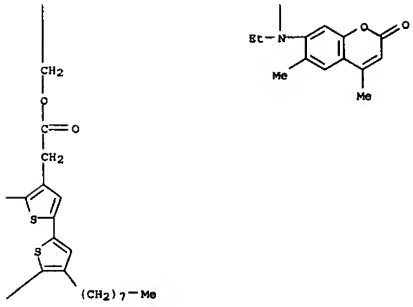
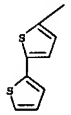


L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 3-A



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 30 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 09 Jul 2000

AB The redox states of a series of well-defined hybrid dendrimers based on oligothiophene cores and poly(benzyl ether) dendrons have been studied using cyclic voltammetry and variable-temperature UV/visible/near-IR spectroscopy. The oxidation potentials and the electronic transitions of the neutral, singly oxidized, and doubly oxidized states of these novel hybrid materials have been determined as a function of oligothiophene conjugation length varying between 4 and 17 repeat units. The attachment of poly(benzyl ether) dendritic wedges at the termini of these lengthy oligothiophenes considerably enhances their solubility, thus enabling the first detailed investigation of the electronic structure of oligothiophenes having 11 and 17 repeat units with minimal β-substitution. In the case of the undecamer and heptadecamer, we find that the dicationic state consists of two individual polarons, rather than a single bipolaron. The effect of the dendritic poly(benzyl ether) solubilizers on the properties of the redox states varies with the oligothiophene length and dendron size. More specifically, we observe a kinetic limit to the electrochem. oxidation of the oligothiophene core when the dendron is large compared to the electrophore. Finally, we have observed the first example of self-complexation of cation radicals via π-dimerization leading to the formation of dendritic supramol. assemblies.

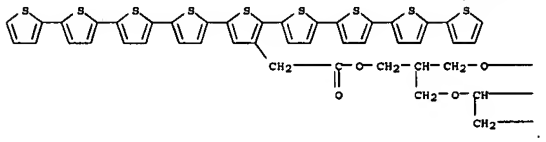
ACCESSION NUMBER: 2000:457921 HCAPLUS
DOCUMENT NUMBER: 133:193729
TITLE: Redox States of Well-Defined π-Conjugated Oligothiophenes Functionalized with Poly(benzyl ether) Dendrons
AUTHOR(S): Apperloo, Joke J.; Janssen, Rene A. J.; Malenfant, Patrick R. L.; Groenendaal, Lambertus; Frechet, Jean M. J.
CORPORATE SOURCE: Laboratory for Macromolecular and Organic Chemistry, Eindhoven University of Technology, Eindhoven, 5600 MB, Neth.
SOURCE: Journal of the American Chemical Society (2000), 122(29), 7042-7051
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

IT 256662-54-1 256662-55-2
RL: PRP (Properties)
(redox states of π-conjugated oligothiophenes functionalized with poly(benzyl ether) dendrons)

RN 256662-54-1 HCAPLUS
CN {2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5''''''
,2''''''':5'''''''
,2''''''''-Novithiophene}-3''''-acetic acid, 3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 30 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



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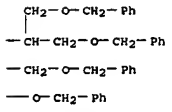
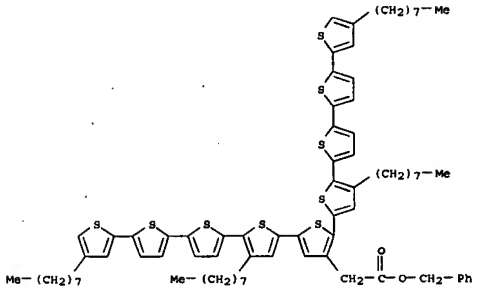


RN 256662-55-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''':5''''''',2'''''''':5'''''''-Novithiophene]-3'''''-acetic acid, 3''',4,4''''',4'''''''-tetraoctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 30 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

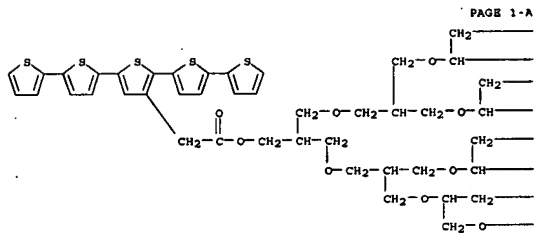


REFERENCE COUNT: 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 16 May 2000
AB The first conducting polythiophene, having only dendritic solubilizers, has been prepared using a Stille coupling approach. The use of second and third generation aliphatic ether convergent dendrons as a solubilizing platform facilitated the preparation of dendrimer-oligothiophene hybrid macromonomers having minimal substitution. Polymers were then prepared via an A2 + B2 step-growth polymerization between an oligothiophene-dibromide macromonomer and 2,5-bis(trimethylstannyl)thiophene using Pd(PPh3)2Cl2 as the catalyst. Both the dendrimer size and the dendrimer-to-thiophene unit ratio were variables that required optimization in order to obtain a solution-processable conducting polymer. Conductivities as high as 200 S/cm were measured for iodine doped thin films of the polythiophene with six thiophene repeat units for each third generation dendron.
ACCESSION NUMBER: 2000:315676 HCAPLUS
DOCUMENT NUMBER: 133:43911
TITLE: Dendrimers as Solubilizing Groups for Conducting Polymers: Preparation and Characterization of Polythiophene Functionalized Exclusively with Aliphatic Ether Convergent Dendrons
AUTHOR(S): Malenfant, Patrick R. L.; Frechet, Jean M. J.
CORPORATE SOURCE: Department of Chemistry, University of California, Berkeley, CA, 94720-1460, USA
SOURCE: Macromolecules (2000), 33(10), 3634-3640
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 274902-40-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(in monomer preparation; preparation and characterization of polythiophene functionalized exclusively with aliphatic ether convergent dendrons)
RN 274902-40-8 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3''-acetic acid, 3-[3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propoxy]-2-[[3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propoxy]methyl]propyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



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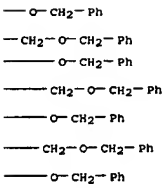

IT 274902-41-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation and characterization of polythiophene functionalized exclusively with aliphatic ether convergent dendrons)
RN 274902-41-9 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3''-acetic acid, 5,5''''-dibromo-, 3-[3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propoxy]-2-[[3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propoxy]methyl]propyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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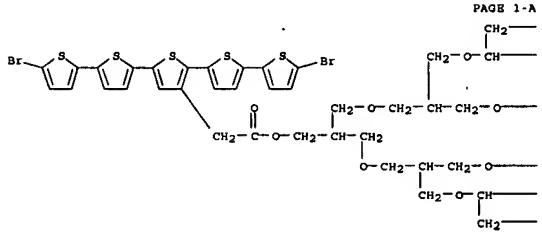

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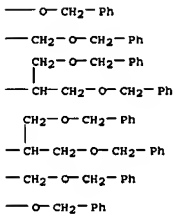

IT 274902-44-2P 274902-45-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of polythiophene functionalized exclusively with aliphatic ether convergent dendrons)
RN 274902-44-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3''-acetic acid, 5,5''''-dibromo-,
3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propyl ester, polymer with 2,5-thiophenediylbis[trimethylstannane] (9CI) (CA INDEX NAME)

CM 1

CRN 256662-53-0

L16 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
CMF C60 H56 Br2 O8 S5

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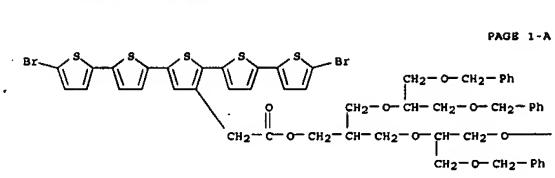

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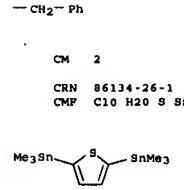


CM 2

CRN 86134-26-1
CMF C10 H20 S Sn2

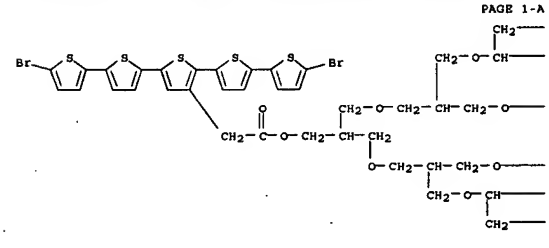
RN 274902-45-3 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3''-acetic acid, 5,5''''-dibromo-,
3-[3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propoxy]-2-[[3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propoxy]methyl]propyl ester, polymer with 2,5-thiophenediylbis[trimethylstannane] (9CI) (CA INDEX NAME)

CM 1

CRN 274902-41-9
CMF C102 H108 Br2 O16 S5

L16 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



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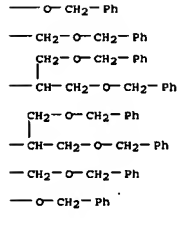
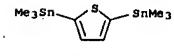


CM 2

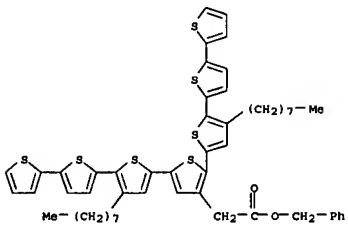
CRN 86134-26-1
CMF C10 H20 S Sn2



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

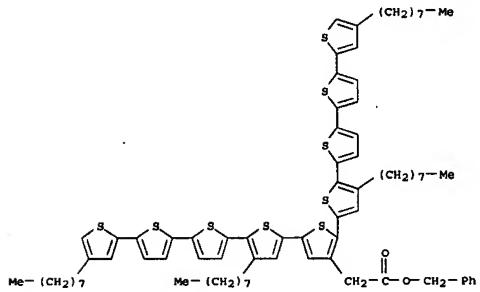
L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 14 Apr 2000
AB Novel chromophore-labeled dendrimers with penta- and heptathiophene cores and coumarin-2 chromophores at their periphery have been shown to be very efficient light-harvesting systems. Excitation of the peripheral coumarin-2 chromophores results in energy transfer to the oligothiophene cores as a result of the large overlap between the donor emission spectrum
and the acceptor absorption spectrum, as well as the large transition dipole moments of the oligothiophenes. Although these core dyes have low fluorescence quantum yields, their emission intensity is significantly enhanced by the ability of the large light-harvesting dendron to funnel absorbed energy to the core. Because of the large Stokes shift of the oligothiophenes, the emission spectrum of the dendrimers was red-shifted by 200 nm from the excitation wavelength. Oligothiophene orientation-end functionalization vs. central functionalization did not have a significant
effect on energy-transfer efficiency.
ACCESSION NUMBER: 2000:238642 HCAPLUS
DOCUMENT NUMBER: 133:17882
TITLE: Synthesis and Steady-State Photophysical Properties of
Dye-Labeled Dendrimers Having Novel Oligothiophene Cores: A Comparative Study
AUTHOR(S): Adronov, Alex; Malenfant, Patrick R. L.; Frechet, Jean
M. J.
CORPORATE SOURCE: Department of Chemistry, University of California, Berkeley, CA, 94720-1460, USA
SOURCE: Chemistry of Materials (2000), 12(5), 1463-1472
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 272115-60-3P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; synthesis and steady-state photophys. properties of dye-labeled dendrimers having novel oligothiophene cores)
RN 272115-60-3 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5''''''-Septithiophene]-3'''-acetic acid, 3'',4''''-dioctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

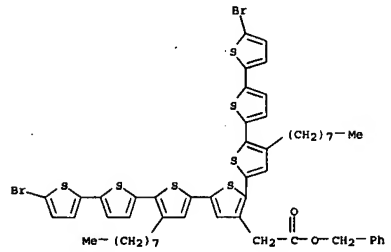


IT 256662-55-2P 272115-58-9P 272115-59-0P
272115-61-4P 272115-62-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; synthesis and steady-state photophys. properties of dye-labeled dendrimers having novel oligothiophene cores)

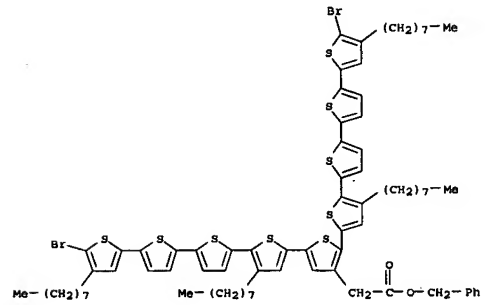
RN 256662-55-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''':5''''''',2'''''''-Novithiophene]-3'''''-acetic acid, 3''',4,4''''',4'''''''-tetraoctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)



L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 272115-62-5 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5''''''',2''''''':5'''''''-Novithiophene]-3'''''-acetic acid, 5,5'''''''-dibromo-3''',4,4''''',4'''''''-tetraoctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

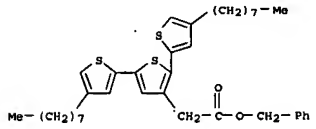


IT 272115-67-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; synthesis and steady-state photophys. properties of dye-labeled dendrimers having novel oligothiophene cores)

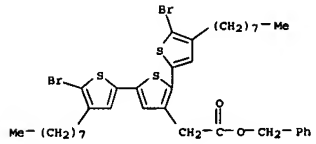
RN 272115-67-0 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5''''''-

L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 272115-58-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''-dioctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

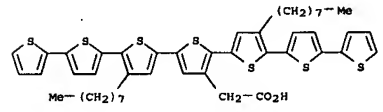


RN 272115-59-0 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 5,5''-dibromo-4,4''-dioctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)



RN 272115-61-4 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':Septithiophene]-3'''-acetic acid, 5,5''''''-dibromo-3'',4''''-dioctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

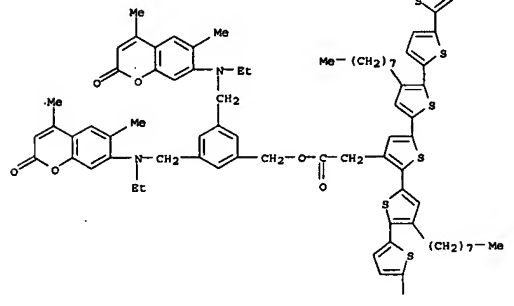
L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
Septithiophene]-3'''-acetic acid, 3'',4''''-dioctyl- (9CI) (CA INDEX NAME)



IT 272115-66-9P 272115-68-1P 272115-69-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and steady-state photophys. properties of dye-labeled dendrimers having novel oligothiophene cores)

RN 272115-66-9 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':Septithiophene]-3'''-acetic acid, 3'',4''''-dioctyl-, [3,5-bis[[(4,6-dimethyl-2-oxo-2H-1-benzopyran-7-yl)ethylamino]methyl]phenyl]methyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

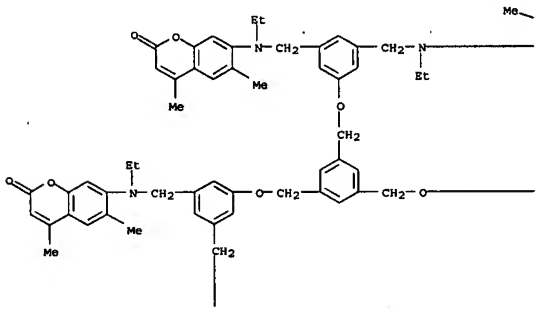


L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A

RN 272115-68-1 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''-Septithiophene]-3'''-acetic acid, 3'',4''''-dioctyl-, [3,5-bis[[3,5-bis[[(4,6-dimethyl-2-oxo-2H-1-benzopyran-7-yl)ethylamino]methyl]phenoxy]methyl]phenyl]methyl ester (9CI) (CA INDEX NAME)

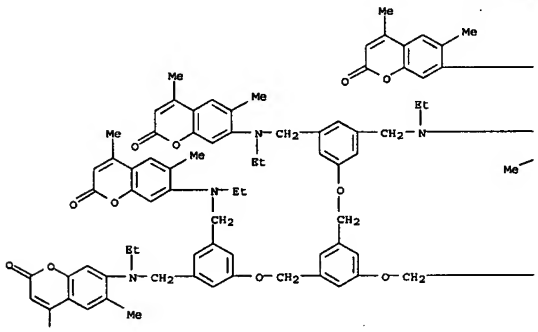
PAGE 1-A



L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

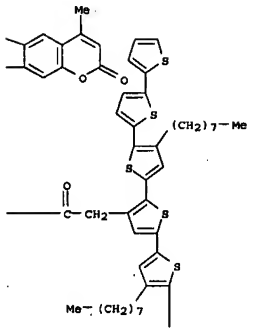
CN [2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''-Septithiophene]-3'''-acetic acid, 3'',4''''-dioctyl-, [3,5-bis[[3,5-bis[[3,5-bis[[(4,6-dimethyl-2-oxo-2H-1-benzopyran-7-yl)ethylamino]methyl]phenoxy]methyl]phenoxy]methyl]phenyl]methyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

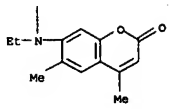


L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

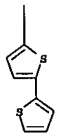
PAGE 1-B



PAGE 2-A



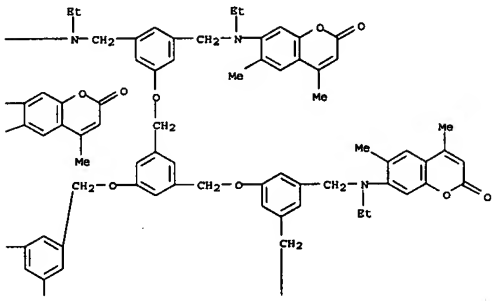
PAGE 2-B



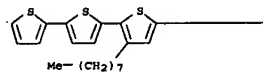
RN 272115-69-2 HCAPLUS

L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

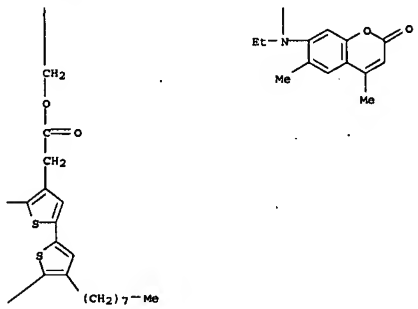


PAGE 2-A

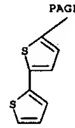


L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-B



PAGE 3-A



IT 272115-63-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis and steady-state photophys. properties of dye-labeled dendrimers having novel oligothiophene cores)
RN 272115-63-6 HCAPLUS
CN
[2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''':5''''''',2'''''''':5'''''''',2''''''''':5''''''''',2''''''''''-Undecithiophene]-3'''''-acetic acid,
3',3'''',4,4'''''',4'''''''''',4'''''''''''-hexaoctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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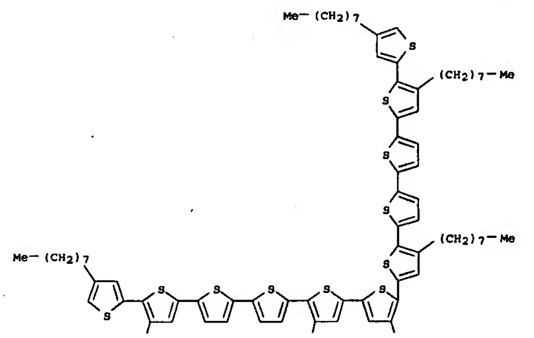
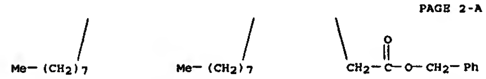
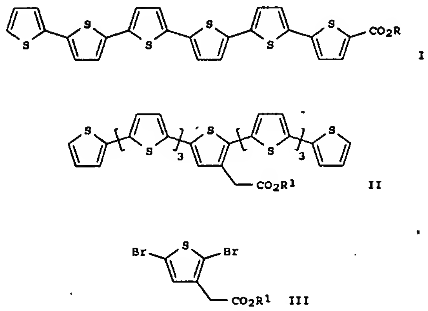


PAGE 2-A



REFERENCE COUNT: 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 01 Dec 1999
GI

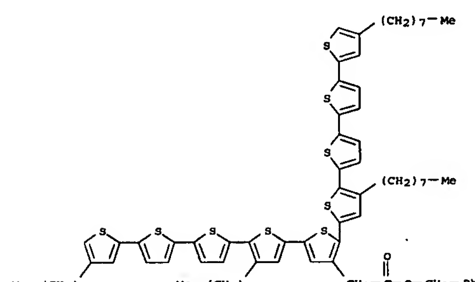


AB Oligothiophenes such as I (R = CH2CH(CH2OCH2CH(CH2OCH2CH(CH2OBn)2)2)2) and
II (R1 = CH2CH(CH2OCH2CH(CH2OBn)2)2) with pendant dendrimers are prepared by
bromination and coupling procedures analogous to unsubstituted oligothiophenes while exhibiting enhanced solubility relative to unsubstituted
thiophenes. E.g., coupling of the third-generation dendrimer with 2,2'-bithiophene-5-carbonyl chloride give a dendrimeric ester which was regioselectively brominated with NBS in DMF in 92% yield, coupled with 2,2'-bithien-5-yltrimethylstannane in the presence of a palladium catalyst
in 66% yield, and the product subjected to a second bromination-coupling cycle to give I in 5 steps. E.g., dibrominated thiophene ester III (R1 = CH2CH(CH2OCH2CH(CH2OBn)2)2) was coupled with 2,2'-bithien-5-yltrimethylstannane in the presence of a palladium catalyst in 89% yield followed by bromination and a second coupling with 2,2'-bithien-5-yltrimethylstannane to give II in 3 steps. The stability of the dendrimers to bromination conditions allows for facile extension of oligothiophenes and easier purification of the resulting oligothiophenes. Oligothiophenes such as II with the dendrimer near the middle of the oligothiophene chain show greater oxidative stability than terminally substituted dendrimeric oligothiophenes such as I. The monodendrimer-substituted oligothiophenes show longer wavelength absorptions than soluble dendrimers substituted with multiple alkyl groups,
indicating that the monosubstituted oligothiophenes have a conformation with more extended conjugation than multiply-substituted oligothiophenes

L16 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
with similar soly.

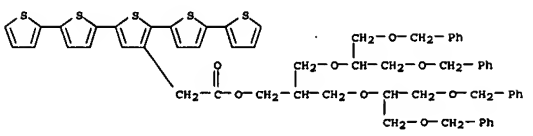
ACCESSION NUMBER: 1999:757906 HCAPLUS
DOCUMENT NUMBER: 132:137231
TITLE: Dendrimer-Supported Oligothiophene Synthesis: Aliphatic Ether Dendrimers in the Preparation of Oligothiophenes with Minimal Substitution
AUTHOR(S): Malenfant, Patrick R. L.; Jayaraman, Manikandan; Frechet, Jean M. J.
CORPORATE SOURCE: Department of Chemistry, University of California, Berkeley, CA, 94720-1460, USA
SOURCE: Chemistry of Materials (1999), 11(12), 3420-3422
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 132:137231

IT 256662-55-2
RL: PRP (Properties)
(alkyl-substituted oligothiophene UV absorption and the comparison with
monodendrimeric substituted oligothiophene derivative UV absorption)
RN 256662-55-2 HCAPLUS
CN
[2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''':5''''''',2''''''''-Novithiophene]-3''''-acetic acid,
3''',4,4''''',4''''''''-tetraoctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)



IT 256662-52-9P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of dendrimer-substituted oligothiophenes)
RN 256662-52-9 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3''-acetic acid, 3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propyl ester (9CI)

L16 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
(CA INDEX NAME)



IT 256662-54-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of dendrimer-substituted oligothiophenes)
RN 256662-54-1 HCAPLUS
CN
[2,2':5',2'':5'',2''':5''',2'''':5'''',2''''':5''''',2'''''':5'''''',2''''''':5'''''',2''''''''-Novithiophene]-3''''-acetic acid,
3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propyl ester (9CI)
(CA INDEX NAME)

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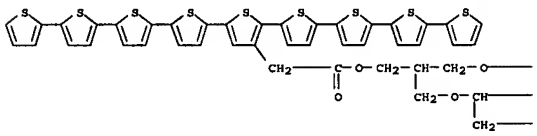

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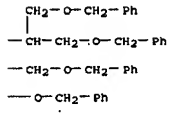
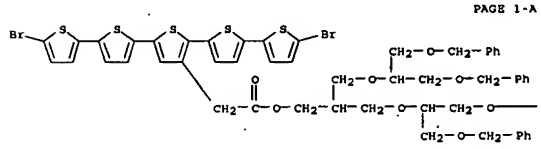


IT 256662-53-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. of dendrimer-substituted oligothiophenes)
RN 256662-53-0 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5''''-Quinquethiophene]-3''-acetic acid, 5,5''''-dibromo-,
3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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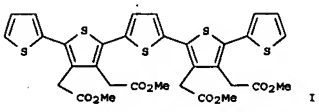
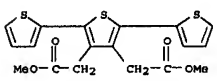
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 34 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 26 Jan 1999
GI

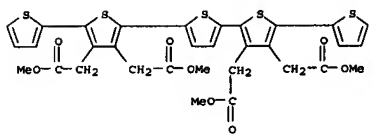


AB The synthesis of 3,4-bis[(methoxycarbonyl)methyl]thiophene and bis-, ter- and pentathiophenes with alternating 3,4-bis(methoxycarbonyl)methyl substituted rings, e.g. I, is reported. These new thiophene derivs. are possible precursors for the preparation of new conducting polymers useful as
materials for electronics.
ACCESSION NUMBER: 1999:50477 HCAPLUS
DOCUMENT NUMBER: 130:182314
TITLE: Synthesis of 3,4-bis[(methoxycarbonyl)methylthiophene and bis-, ter- and pentathiophenes with alternating 3,4-bis[(methoxycarbonyl)methyl] substituted rings
AUTHOR(S): Fazio, Alessia; Gabriele, Bartolo; Salerno, Giuseppe; Destri, Silvia
CORPORATE SOURCE: Dipartimento di Chimica, Universita della Calabria, Cosenza, 87030, Italy
SOURCE: Tetrahedron (1999), 55(2), 485-502
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 220653-51-0P 220653-53-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of bis[(methoxycarbonyl)methylthiophene and bis-, ter- and
pentathiophenes with alternating bis[(methoxycarbonyl)methyl] substituted rings)
RN 220653-51-0 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, dimethyl ester (9CI) (CA INDEX NAME)



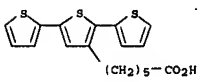
RN 220653-53-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3',3''',4',4''''-tetraacetic acid, tetramethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 34 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 09 Apr 1996
AB Novel activated ester-functionalized oligothiophenes were obtained by electropolymn. using potentiodynamic cyclic voltammetry. The resulting conducting polymers could be easily surface modified, e.g. by anchoring 2-aminoethoxymethylferrocene from solution, and were characterized by cyclic voltammograms and FTIR spectra.
ACCESSION NUMBER: 1996:202724 HCAPLUS
DOCUMENT NUMBER: 125:34293
TITLE: Post-polymerization functionalization of conducting polymers. Novel poly(alkylthiophene)s substituted with easily replaceable activated ester groups
AUTHOR(S): Baeuerle, Peter; Hiller, Markus; Scheib, Stefan; Sokolowski, Moritz; Umbach, Eberhard
CORPORATE SOURCE: Inst. Org. Chem., Univ. Wuerzburg, Wuerzburg, D-97074, Germany
SOURCE: Advanced Materials (Weinheim, Germany) (1996), 8(3), 214-18
CODEN: ADVMEW; ISSN: 0935-9648
PUBLISHER: VCH
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 178183-07-8P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; monomer preparation and one-step post-polymerization-functionalization poly(alkylthiophenes) substituted with activated ester groups)
RN 178183-07-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-hexanoic acid (9CI) (CA INDEX NAME)

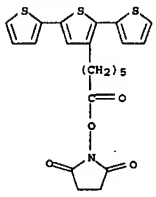


IT 178183-09-0DP, reaction products with 2-aminoethoxymethylferrocene 178183-09-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(monomer preparation and one-step post-polymerization-functionalization poly(alkylthiophenes) substituted with activated ester groups)
RN 178183-09-0 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[(1-oxo-6-[2,2':5',2''-terthiophen]-3'-ylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

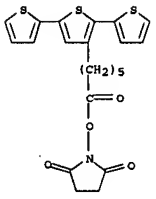
CM 1

CRN 178183-08-9
CMF C22 H21 N O4 S3

L16 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



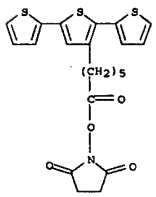
L16 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 178183-09-0 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[(1-oxo-6-[2,2':5',2''-terthiophen]-3'-ylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

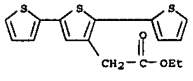
CM 1

CRN 178183-08-9
CMF C22 H21 N O4 S3

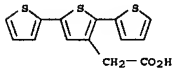


IT 178183-08-9P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; monomer preparation and one-step post-polymerization-functionalization poly(alkylthiophenes) substituted with activated ester groups)
RN 178183-08-9 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[(1-oxo-6-[2,2':5',2''-terthiophen]-3'-ylhexyl)oxy]- (9CI) (CA INDEX NAME)

L16 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 07 Jun 1995
AB A photochromic spironaphthoxazine group was covalently bonded in the 3 position of thiophene and in the 3' position of terthiophene. The electrochem. and spectroscopic properties of these compds. were characterized, together with their photochromic properties, associated with the ring opening of the naphthoxazine moiety under light excitation, which occurs in solution and even in the solid state of these compds. Electropolymn. into spironaphthoxazine functionalized poly(thiophenes) was only successful with the terthiophene derivative, due to the relief of steric hindrance and electronic effects on the thiophene units in this compound The much lower photochromic properties of terthiophene homopolymer are associated with the compactness of this polymer.
ACCESSION NUMBER: 1995:591996 HCAPLUS
DOCUMENT NUMBER: 122:315258
TITLE: Synthesis and Characterization of Poly(thiophenes) Functionalized by Photochromic Spironaphthoxazine Groups
AUTHOR(S): Yassar, A.; Moustrou, C.; Youssoufi, H. Korri; Samat, A.; Guglielmetti, R.; Garnier, F.
CORPORATE SOURCE: Laboratoire des Materiaux Moleculaires, CNRS, Thiais, 94 320, Fr.
SOURCE: Macromolecules (1995), 28(13), 4548-53
CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 163463-80-7P, Ethyl 2,2':5',2''-terthiophene-3'-acetate 163463-81-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate in monomer preparation; preparation, characterization, and electrochem. polymerization of spironaphthoxazine-functionalized thiophenes)
RN 163463-80-7 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, ethyl ester (CA INDEX NAME)

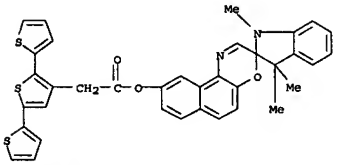


RN 163463-81-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)



L16 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

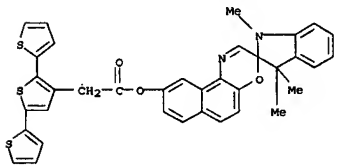
IT 161874-44-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation, characterization, and electrochem. polymerization of spironaphthoxazine-functionalized thiophenes)
RN 161874-44-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-[3H]naphth[2,1-b][1,4]oxazin]-9'-yl ester (9CI) (CA INDEX NAME)



IT 161874-45-9P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation, characterization, and electrochem. polymerization of spironaphthoxazine-functionalized thiophenes)
RN 161874-45-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-[3H]naphth[2,1-b][1,4]oxazin]-9'-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

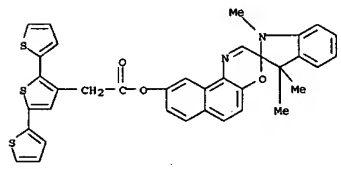
CRN 161874-44-8
CMF C36 H28 N2 O3 S3



L16 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 21 Mar 1995
AB A photochromic spironaphthoxazine group is covalently bonded to the 3'-position of terthienyl and the 3-position of thiophene; electropolymn. into spironaphthoxazine-functionalized polythiophene only occurs with the use of the spironaphthoxazine-terthiophene compound as the monomer.

ACCESSION NUMBER:	1995:427413 HCAPLUS
DOCUMENT NUMBER:	122:188348
TITLE:	Synthesis and electropolymerization of terthienyl carrying a photochromic group
AUTHOR(S):	Yassar, Abd errahim; Moustrou, Corrine; Youssoufi, Hafsa Korri; Samat, Andre; Guglielmetti, Robert; Granier, Francis
CORPORATE SOURCE:	Lab. Materiaux Mol., CNRS, Thiais, 94 320, Fr.
SOURCE:	Journal of the Chemical Society, Chemical Communications (1995), (4), 471-2 CODEN: JCCCAT; ISSN: 0022-4936
PUBLISHER:	Royal Society of Chemistry
DOCUMENT TYPE:	Journal
LANGUAGE:	English

IT 161874-44-8 161874-45-9
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(preparation and electropolymn. of photochromic spironaphthoxazine containing terthienyl)
RN 161874-44-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-[3H]naphth[2,1-b][1,4]oxazin]-9'-yl ester (9CI) (CA INDEX NAME)



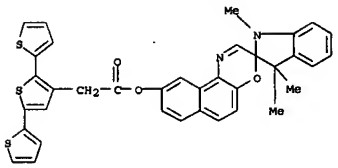
RN 161874-45-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-[3H]naphth[2,1-b][1,4]oxazin]-9'-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 161874-44-8
CMF C36 H28 N2 O3 S3

L16 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



07/08/2007,10531330d.trn

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Welcome to STN International! Enter x:x

LOGINID:SSPTASXY1626

PASSWORD:
* * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'HCAPLUS' AT 14:33:11 ON 07 AUG 2007
FILE 'HCAPLUS' ENTERED AT 14:33:11 ON 07 AUG 2007
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	197.59	1270.77

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-28.86	-84.24

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	200.19	1273.37

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-28.86	-84.24

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DICTIONARY FILE UPDATES: 6 AUG 2007 HIGHEST RN 944108-38-7

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on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

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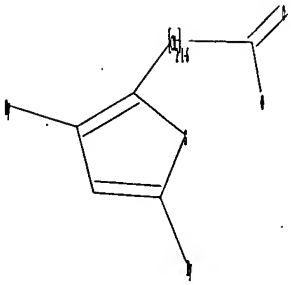

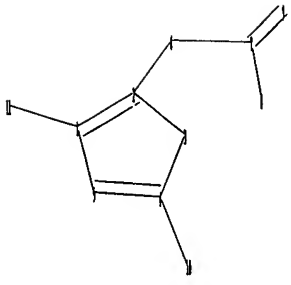

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ring nodes :
1 2 3 4 5
chain bonds :
1-11 2-6 4-10 6-7 7-8 7-9
ring bonds :
1-5 1-2 2-3 3-4 4-5
exact/norm bonds :
1-5 1-2 1-11 2-3 3-4 4-5 4-10 7-8 7-9
exact bonds :
2-6 6-7

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:Atom
11:Atom
Generic attributes :
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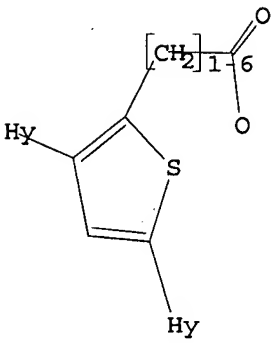
Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Type of Ring System : Monocyclic
11:
Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Number of Hetero Atoms : Exactly 1
Type of Ring System : Monocyclic

Element Count :
Node 11: Limited
S,S1
C,C4
O,O0
N,N0

L17 STRUCTURE UPLOADED

=> d l17
L17 HAS NO ANSWERS
L17 STR



Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SCREEN SEARCH COMPLETED -     5337 TO ITERATE

 37.5% PROCESSED     2000 ITERATIONS                                 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       102360 TO   111120
PROJECTED ANSWERS:               0 TO        0

L18            0 SEA SSS SAM L17

=> s l17 full
FULL SEARCH INITIATED 14:33:57 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   106289 TO ITERATE

100.0% PROCESSED   106289 ITERATIONS                               6 ANSWERS
SEARCH TIME: 00.00.01

L19            6 SEA SSS FUL L17

=> file caplus
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                             172.10    1445.47

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)    SINCE FILE      TOTAL
                                                   ENTRY    SESSION
CA SUBSCRIBER PRICE                               0.00     -84.24

FILE 'CAPLUS' ENTERED AT 14:34:04 ON 07 AUG 2007
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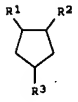
FILE COVERS 1907 - 7 Aug 2007 VOL 147 ISS 7
FILE LAST UPDATED: 6 Aug 2007 (20070806/ED)

=> s l19
L20 2 L19

=> d ed abs ibib hitstr tot

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 24 Nov 2005
GI



I

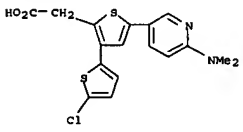
AB The 5-membered heterocyclic compds. I [ring A indicates Q1, Q2, or Q3; R1 = (un)substituted aryl; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl; R4 = H, (un)substituted alkyl; when R1 = R3 = Ph, then R2 ≠ carboxymethyl, ethoxycarbonylmethyl] or their pharmacol. acceptable salts are used for high-conductance Ca-sensitive K channel openers, useful for treatment of urinary frequency, urinary incontinence, cerebral infarction, subarachnoid hemorrhage, etc. Alternatively, the 5-membered heterocyclic compds. I [ring A indicates Q4, Q5, or Q6; R1 = (un)substituted thienyl, aryl substituted with 2 halogen atoms; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl; R4 = H, (un)substituted alkyl; when R1 = 2-thienyl, then R3 ≠ 2-thienyl] or their pharmacol. acceptable salts are used for high-conductance Ca-sensitive K channel openers. II (prepared in 5 steps from 3-bromo-2-formylfuran) inhibited K+-induced contraction of rabbit bladder samples with IC50 of ≤0.5 μM.

ACCESSION NUMBER: 2005:1240726 CAPLUS
DOCUMENT NUMBER: 143:472612
TITLE: Use of five-membered heterocyclic compounds for high-conductance calcium-sensitive potassium channel openers
INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Oba, Kiyomi; Kono, Rikako; Konoumi, Shuntaro
PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005325103	A	20051124	JP 2005-115251	20050413
PRIORITY APPLN. INFO.:			JP 2004-117430 A	20040413

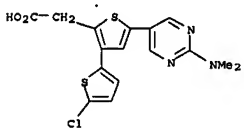
OTHER SOURCE(S): MARPAT 143:472612
IT 683252-12-2P 683252-14-4P 683252-19-9P
683252-21-3P

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



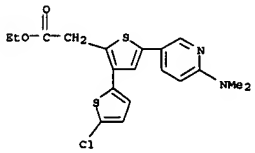
● Na

RN 683252-21-3 CAPLUS
CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[2-(dimethylamino)-5-pyrimidinyl]-, sodium salt (9CI) (CA INDEX NAME)

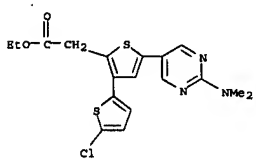


● Na

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of five-membered heterocyclic compds. for high-conductance calcium-sensitive potassium channel openers)
RN 683252-12-2 CAPLUS
CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[6-(dimethylamino)-3-pyridinyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 683252-14-4 CAPLUS
CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[2-(dimethylamino)-5-pyrimidinyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 683252-19-9 CAPLUS
CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[6-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 30 Apr 2004
AB There are disclosed large conductance Ca-activated K channel openers (R1-R3-substituted 5-membered heterocycles (I; e.g. 5-(4-methylthiophenyl)-2-(5-chlorothien-2-yl)furan-3-ylacetic acid sodium salt (II)) containing any one of O, N or S, which ring may be N-substituted by R4; R1 is aryl, heterocyclic or heterocycle-substituted carbonyl; R2 is H, halogen, carboxy, amino, alkyl, alkoxycarbonyl, alkenyl or cycloalkyl; R3 is aryl, heterocyclic or alkyl; and R4 is H or alkyl; each of substituents may be substituted; addnl. details are given in the claims) or a pharmaceutically acceptable salt thereof as an active ingredient. Although the methods of preparation are not claimed, example prepns. and/or characterization data for .apprx.60 examples of I are included. For example, II was prepared in 6 steps (28, 58, not given, 58, 71, not given % yields, resp.) starting with coupling of 3-formylfuran-2-ylboronic acid with 2-bromo-5-chlorothiophene to give 2-(5-chlorothien-2-yl)furan-3-carboxaldehyde, which was converted to Et 2-(5-chlorothien-2-yl)furan-3-ylacetate, then Et 2-[5-bromo-2-(5-chlorothien-2-yl)furan-3-yl]acetate, then Et 2-[5-(4-methylthiophenyl)-2-(5-chlorothien-2-yl)furan-3-yl]acetate using (4-methylthiophenyl)boronic acid, followed by base hydrolysis to the acid followed by conversion to the sodium salt. The relaxation effect on K-induced contraction of isolated rabbit urinary bladder and the inhibitory effect on the rhythmic bladder contractions induced by substance P in anesthetized rats were determined for 8 and 6 examples of I, resp. Expts. involving iberiotoxin, a selective large conductance calcium activated K channel blocker, suggest that I have a detrusor relaxing activity through the large conductance calcium activated K channel,

ACCESSION NUMBER: 2004:354933 CAPLUS
DOCUMENT NUMBER: 140:375064
TITLE: Preparation of 5-membered heterocycle-substituted acetic acid derivatives as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence
INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Ohba, Kiyomi; Kono, Rikako; Kohnomi, Shuntarou
PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan
SOURCE: PCT Int. Appl., 90 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035570	A1	20040429	WO 2003-JP13194	20031015
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2501979	A1	20040429	CA 2003-2501979		20031015
AU 2003272099	A1	20040504	AU 2003-272099		20031015
EP 1556376	A1	20050727	EP 2003-754140		20031015
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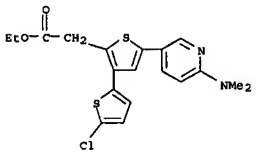
BR 2003015386	A	20050823	BR 2003-15386		20031015
CN 1705659	A	20051207	CN 2003-80101508		20031015
JP 2006503111	T	20060126	JP 2005-501348		20031015
NZ 539902	A	20070531	NZ 2003-539902		20031015
MX 2005PA03972	A	20050622	MX 2005-PA3972		20050414
US 2006135597	A1	20060622	US 2005-531330		20050414
NO 2005002023	A	20050510	NO 2005-2023		20050426
PRIORITY APPLN. INFO.:			JP 2002-300860	A	20021015
			JP 2003-104260	A	20030408
			WO 2003-JP13194	W	20031015

OTHER SOURCE(S): MARPAT 140:375064

IT 683252-12-2P, Ethyl 3-(5-chlorothien-2-yl)-5-[6-(dimethylamino)pyridin-3-yl]thiophene-2-acetate 683252-14-4P, Ethyl 3-(5-chlorothien-2-yl)-5-[2-(dimethylamino)pyrimidin-5-yl]thiophene-2-acetate
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)

RN 683252-12-2 CAPLUS

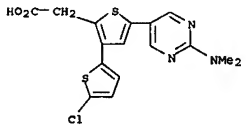
CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[6-(dimethylamino)-3-pyridinyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 683252-14-4 CAPLUS

CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[2-(dimethylamino)-5-

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



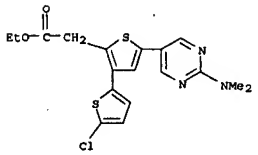
● Na

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

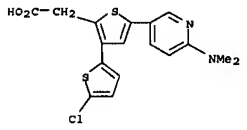
pyrimidinyl]-, ethyl ester (9CI) (CA INDEX NAME)



IT 683252-19-9P, 3-(5-Chlorothien-2-yl)-5-[6-(dimethylamino)pyridin-3-yl]thiophene-2-acetic acid sodium salt 683252-21-3P, 3-(5-Chlorothien-2-yl)-5-[2-(dimethylamino)pyrimidin-5-yl]thiophene-2-acetic acid sodium salt
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)

RN 683252-19-9 CAPLUS

CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[6-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)



● Na

RN 683252-21-3 CAPLUS

CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[2-(dimethylamino)-5-pyrimidinyl]-, sodium salt (9CI) (CA INDEX NAME)